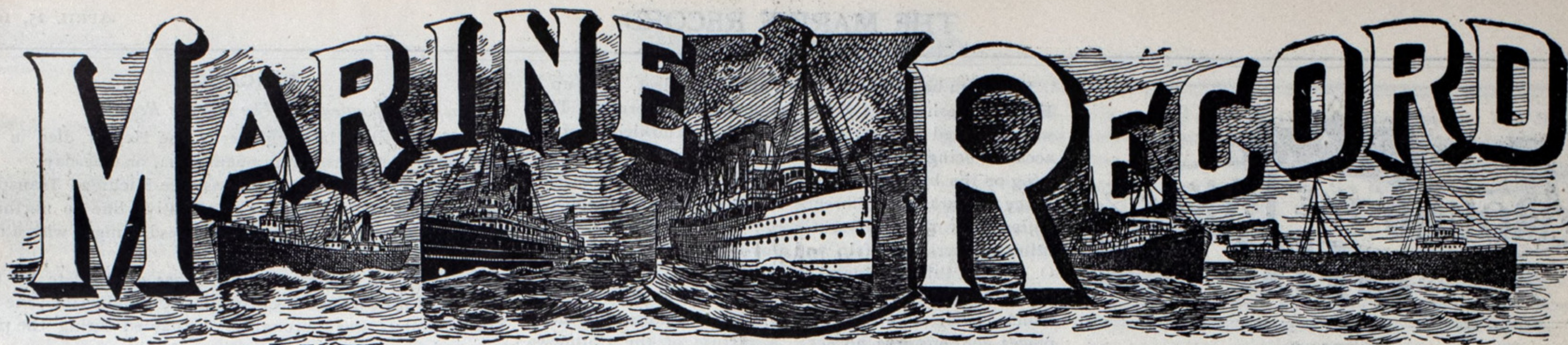


MARINE RECORD



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THE CHICAGO DRAINAGE CANAL.

Commercial organizations of Chicago are finally becoming aware of the danger threatened to that port by the swift current in Chicago river resulting from the drainage canal. The marine interests sounded the warning last season. Many vessels were damaged in attempting to pass the narrow draws, and strong probability of the reduction of commerce by the refusal of boats to enter the river, unless conditions were improved, became apparent. Business men of Chicago, quick to grasp the situation, have appealed to the Secretary of War for assistance in supporting the vast commerce floated on this important waterway, and the following has been sent to Hon. Elihu Root, by the Chicago Commercial Association:

"The various interests, as manufacturers, shipping, railways, grain, lumber, coal, elevators and the like, doing business in and along the Chicago river and its south branch, have been put to serious cost and loss, by reason of the large volume of water allowed to flow through the river much of the time since the board of trustees of the sanitary district of Chicago have turned the water through the drainage canal of the district. The flow of water at times has exceeded 350,000 cubic feet of water per minute, causing so strong a current that the navigation of the river has been made so hazardous as greatly to curtail business, to the serious damage of all interests.

"The current has been found to be nearly three miles per hour at times, a speed that is not consistent with safe navigation of the river under the existing conditions, as has been proved beyond question, and it is the opinion of this association, which is composed of representative men in business, banking and professional pursuits, who are deeply interested in the welfare of Chicago, its interests, our great inland marine, and the interests of the Middle West and the Northwest, that until further improvements are made in the Chicago river, a maximum current of more than one and one-quarter miles per hour should not longer be permitted in the river.

"Therefore, the Chicago Commercial Association respectfully petitions that you take the proper steps to cause the board of trustees to maintain a flow of water through the Chicago river of not more than 200,000 cubic feet of water per minute."

The petition has been granted and measures taken to see that the reduction of one-third of the volume of flow will have the effect of rendering the Chicago river again navigable for craft under ordinary conditions.

IMMENSE SISTER SHIPS.

The new White Star liner Celtic, recently launched from the yard of Harland & Wolff, Belfast, Ireland, is not as has been stated in the press reports, the largest vessel in the world, built or building. The Eastern Shipbuilding Co. of New London, Conn., is now constructing in its new yard on the east bank of the Thames river, two steamers which will have a greater tonnage and displacement than the Celtic.

These large vessels are being built for the Great Northern Steamship Co., of which James J. Hill is president, and will ply between Seattle and the Orient, their route being probably by way of Yokohama and Hong Kong to Manila, a journey of about 6,500 miles.

The Great Northern Steamships are much deeper and fuller than the Celtic. They will have a tonnage of 21,000 and a load displacement of 38,400 tons, against 36,700 tons extreme load displacement of the Celtic. The American-built vessels are of much the same type as the White Star liner, but will carry first, second and third class passengers besides a large number in steerage. Their passenger capacity will be quite equal to that of the Celtic and their coal and cargo capacity will be slightly larger.

NEW ICE-BREAKING CAR FERRY FOR THE TRANS-SIBERIAN RAILWAY.

The Trans-Siberian Railway has recently put into service on Lake Baikal, in Siberia, a new ice-breaking car ferry built in the shops of the Russian government near Irkutsk, with the exception of the steam engines which were imported from England. Otherwise the vessel was built entirely of Russian material and by Russian labor. The length of the vessel is 290 feet, beam 57 feet, draught 18 feet forward and 20 feet aft, and speed is 13 miles an hour. Two engines are placed in the stern and are separated by a longitudinal water-tight bulkhead; they work the stern propellers of the ice-breaker.

An engine in the fore part of the vessel serves to work the fore screw which breaks the ice. The ice breaker contains ballast distributed in different tanks between the double bottom of the ship, holding 580 tons of water. The new vessel carries 25 loaded cars placed on three tracks on the main deck, while the cabins of the upper deck accommodate about 150 passengers. The vessel is supposed to break ice 4 feet thick. Work on the circuit railway around Lake Baikal is being carried on at good speed, though it is not expected that this part of the Trans-Siberian railway will be completed before the beginning of 1903. In the meantime the ice-breakers have to carry the passengers and freight across the lake.

GEORGIAN BAY TO MONTREAL.

"Not content with deepening the St. Lawrence canals to 14 feet, so that vessels of that draught can now go through from Lake Superior to Montreal and tidewater," the New York Commercial Advertiser observes: "Canada is about to begin a 20-foot waterway from Georgian Bay to Montreal, a distance of 330 miles utilizing the Ottawa river for part of the distance and making a short cut which is expected to divert a large part of the American grain trade to that route. The scheme is the outcome of a conviction that the 14-foot waterway of the St. Lawrence canals is nothing more than provisional, and that the future of the grain trade is with vessels of heavy draught. Ten years ago the Georgian Bay route was looked upon as visionary."

NIAGARA AT NIGHT.

The searchlights to be used in the illumination of the Falls of Niagara will probably be operated from the Canadian side of the river. It is from that side of the stream that the lights will give best service, for there the full views of both falls are obtainable. The Horseshoe or Canadian Falls turns its face toward that shore, while the American Fall faces it full. Therefore light directed from Canada will fall upon both falls and portray them in all their splendor. From the vicinity of the Michigan Central's Falls View station one may get a grand view of the falls, upper river and rapids, and the gorge. This point is back of and above the falls, and affords many advantages which will go toward making the operations of the searchlights a success.

Tests recently made demonstrated very clearly that a grand new night spectacle could thus be created at Niagara, and this wonderful waterfall, the greatest in the world, could be shown to advantage and in its true coloring under bright beams of the projectors.

That the Falls of Niagara are to be thus illumined will be joyous news for all who expect to visit the Pan-American Exposition and Niagara, for it will afford them an additional source of pleasure, and they will be able to view the falls by night as well as by day. Niagara is ever beautiful, but this searchlight illumination will be a feature thoroughly new, and even those who have been so fortunate as to journey to Niagara year after year will find in the effects something thoroughly new and delightful.

THE CONVERSION OF OLD MARINE ENGINES.

An interesting instance of what can be done by marine engineers in the way of bringing old and non-economical marine propelling machinery up-to-date, and thus enabling an old steamer to compete under equal conditions in cost of working, with ships of more recent construction, is exemplified in the case of the steamer Trobay, says the Engineer's Gazette, London. The original machinery was built 18 years ago, and consisted of the ordinary compound, two-crank engines, having cylinders 31 and 58 inches diameter by 36 inch stroke, with two boilers working at 80 lbs. pressure, and consuming 25 to 30 per cent. more fuel than in the case of similar-powered vessels having the advantage of the latest developments in steam propulsion. The owner determined to have the Torbay's machinery converted into the more efficient and economical three-crank, triple-expansion system. In place of the compound cylinders, three complete new cylinders have been fitted, 17 in., 28 in. and 46 in. diameter respectively, which, together with new rods, valve gear, and crank for the additional engine, and substituting in place of the old, a new reduction pipe carrying the guide for extra piston rod crosshead, are practically the only additions made to the original machinery. The two old boilers have been replaced by one large steel boiler constructed for a working pressure of 160 lbs. per square inch, and the capacity of the vessel has been increased by about 180 tons. At a fully loaded trial trip on the Tyne on the measured mile it was found that the speed attained was half a knot in excess of that attained when fitted with ordinary compound engines, while the consumption of fuel was considerably reduced.

THE NEW STEEL STEAMER KENNEBEC.

The new steel steamer Kennebec, built by the Jenks Ship Building Co., Port Huron, to the order of F. B. and F. P. Chesborough, Bay City, Mich., is now being equipped with all modern appliances to facilitate the handling of ship and cargo including an electric light installation.

The general hull dimensions of the Kennebec are: 257 feet over all, 43 feet beam and 26½ feet molded depth. Engines, triple-expansion, diameter of cylinders 17½, 28 and 47 inches, with a stroke of 40 inches. Boilers, Scotch type, 12x12½ feet.

Her builders also furnished the engines and boilers, and they are being complimented on the fine appearance of the hull as well as the first-class workmanship seen throughout the entire construction and equipment.

A somewhat unique departure was made at the christening of the Kennebec, for, instead of the customary and time-honored bottle of wine being broken over her bow, the handsome candidate for lake favors was presented with a small conservatory of the choicest of choice flowers by her fair christener, Mrs. R. E. Bousfield, of Bay City.

Capt. Charles Haight has been given charge of the Kennebec, and is now superintending her fitting out at the yards of the builders, the Jenks Ship Building Co., Port Huron, Mich.

Says the Brooklyn Citizen: "The bill introduced by Assemblyman Leggett, of Niagara, to incorporate The Lower River Power and Water Co., of Niagara, fully supports the suggestion of the Citizen that a mistake was made when authorization was given some years ago to a company which is now drawing water from the river above the Falls by means of a tunnel, to do so; because whatever quantity is taken in that way diminishes to that extent the quantity that goes over the Falls, and as Canada has been asked to empower a company to do the same thing on her side, and many others may be established hereafter on both sides, the Falls may be ultimately ruined."



BUFFALO.

Special Correspondence to the Marine Record.

The Welland canal is now open for traffic.

The Elfin Mere from Toledo was the first arrival here this season.

Charters are fairly liberal at 40 cents on coal to leading ports on Lakes Superior and Michigan.

The American Ship Windlass Co., Providence, R. I., has just shipped in a fine exhibit for the Exposition.

Capt. W. R. Taylor, a veteran mariner and a resident of Kingston for 70 years, died on Sunday, aged 91.

It is said that lake engineers are not qualified to sail on salt water boats without being A1-examined for a license.

The officials of the Lehigh Valley and Erie lines announce that arrangements had been made to man their lake fleets and that full crews were now on their way to Buffalo for that purpose.

Mr. W. J. Conners admits his inability to carry out the project of constructing grain elevators at Montreal and stands ready to transfer his concessions to Capt. A. B. Wolvin of Duluth.

The offices and consultation room of the marine hospital service have been removed from the old post-office building to commodious rooms on the third floor of the Coal and Iron Exchange. Dr. Eugene Wasdin and his assistant, Dr. W. D. Wetmore, are in charge.

Two engineers attached to two prominent lines, members of the Lake Carriers' Association, reported for work on Monday morning. Engineers of the harbor tugs have declared the strike off. They also withdrew from the Marine Engineers' Beneficial Association.

B. W. Folger, Jr., who has been appointed general superintendent of the Brooklyn Rapid Transit Co., is about 30 years of age. For several years past he has been traffic manager of the Thousand Islands & St. Lawrence Steamboat Co., with headquarters at Kingston, Ont.

The consolidation of the Lehigh Valley and the Union Steamboat Line brings together fourteen high classed general cargo steamers, aggregating a gross tonnage of 43,000, of which eight belonged to the Union Co., and six to the Lehigh Valley, averaging a mean of over 3,000 tons each.

The grain handling arrangements are all settled for the season and boats are waited for. Credit is given the committee of the Lake Carriers' Association, Capt. Edward Smith, Mr. W. C. Farrington, Capt. M. M. Drake and Mr. C. A. Brunn, for the businesslike and amicable settlement so promptly brought about.

Supt. Edwin E. Chapman, of the Life Saving Service, 9th District, announces that the new life saving station in Buffalo harbor will possibly be finished during the coming season. Information from Washington is to the effect that the foundation will be commenced this spring. All the life-saving crews within this district have reported for duty and the stations are opened.

The American Shipbuilder, New York, says that John L. Crosthwaite has had the plans prepared for another steel ocean steamer for the Atlantic Steamship Co., of which he is president. The contract will probably be made with the Craig Shipbuilding Co., of Toledo. The steamer will be larger than either of the others that were built on the lakes for the company and taken to the coast last fall. She will enter the coast lumber trade with them from Georgetown, S. C., to northern ports.

The steel steamer Mauch-Chunk, built by the American Ship Building Co. to the order of the Lehigh Valley Transportation Co., was successfully launched on Wednesday afternoon in the presence of fully 10,000 people. The new steamer is 404 feet long, 50 feet beam and 30 feet depth of hold. She has quadruple expansion engines and three boilers tested for 210 pounds of steam. She will carry 6,000 tons of freight. The keel was laid late in December and the new boat will be ready for business about June 1. The keel for a general cargo boat for the Western Transit Co. will be laid in a few days.

Four men belonging to the Rockefeller fleet, laid up in Erie, went ashore in a yawl boat on Sunday afternoon. They were drowned on their return, the first knowledge of the accident being the finding of the boat capsized. There was a fog on the bay and the sea was high. Those lost were Percy B. Durand, of Florence, O., 17 years old, son of G. L. Durand, of the steamer George Corliss; Thomas Greer, Miles Carmer, of Buffalo, and Guy Lapham, of Painesville, O., the last three engineers, most devoted and loyal.

The Niagara Navigation Co. has issued a pretty hanger, which is now adorning the walls and windows of many offices and business houses. A picture of the Chippewa occupies the center of the hanger, above which are seated two young ladies, one in summer attire and the other in a bathing costume. In the distance Toronto is pointed out, and a line indicates the route to Buffalo, showing a miniature picture of the Pan-American Exposition. The entire picture is neatly executed and is admired by all who see it.

DULUTH-SUPERIOR.

Special Correspondence to the Marine Record.

The small steamer Mabel Bradshaw, from Duluth, opened navigation on Portage Lake on Tuesday afternoon.

Navigation is wide open here now, and no ice to hurt anything is on Lake Superior. The Minnie M. has been down to Michipicoten harbor and back.

The Ralph Gray Lumber Co., Cleveland, also closed a deal for 12,000,000 feet of Norway pine to be shipped from Washburn at the early opening of navigation.

Now that Wisconsin has just as favorable vessel taxation laws as Minnesota, it is possible that Superior may become the port of hail of a share of the tonnage in the future just as Milwaukee certainly will.

The report of the Duluth customs office for the quarter ending March 31, shows a total of 305 vessels enrolled with a gross tonnage aggregating 349,434 tons. In addition, two iron steamers are enrolled that sail on the Atlantic.

Port Arthur, Ont., is to have another million-bushel elevator at once, according to a statement credited to Mr. Wm. Mackenzie. It will be erected on the water front, west of Dock No. 5, and will be of the same character as the three elevators at Port William.

All of the saw mills at work with plenty of logs and brisk shipments from the full and free opening of navigation, is what is expected from the head of the lakes this season. The freight rate seems steady at \$2.50 to Ohio ports though vessels would like to see it 25 cents better, and shippers just that much to 50 cents less.

Captain Singer, general manager of the White Line Transportation Company, has issued a folder descriptive of the advantages and pleasure of the triangular lake trip afforded by his line, the terminal points of which are Duluth, Houghton and Port Arthur, with stops at all the intermediate points on both the north and south shores for freight and passengers.

At the head of Lake Superior last year, vessels loaded ore on April 26. From present indications there will be no ore shipped this month, and some of the big ore carriers will not be ready for business before May 10, even if the engineers' strike is settled in a few days, and it is almost certain that the movement of ore in May will not be as heavy as it was a year ago.

The Northwestern Fuel Co.'s new coal dock, at Duluth, will be a solid filled structure, surrounded by cribbed walls of timber, making it enormously strong. Much of the dredging for the dock was done last year. The company will continue to operate its No. 1 dock in Superior after the completion of the new one, and indefinitely thereafter. It needs docks on both sides of the bay.

No single firm has entered into such extensive timber and lumber contracts this season as the Edward Hines Lumber Co., of Chicago. Very large purchases have also been made at Ludington, including the Stephenson mill, which has sawed for them for several years. Mr. Hines has been anxious to get his fleet of boats in service at as early a date as possible so as to handle the immense transactions entered into throughout the winter and this spring.

A TACOMA special says: A contract was closed by J. A. Sloan, of Cleveland, on Saturday last for a tract of land with a frontage of 900 feet on Puyallup river in front of Tacoma for the plat of the Tacoma Ship Building Co. Title to property to be conditioned on the investment of \$300,000 in plant and material or the expenditure of \$250,000 in wages in five years.

CHICAGO.

Special Correspondence to The Marine Record.

Mr. J. H. Gibbs, late engineer of the Hesper, died in the hospital at Manitowoc from pneumonia, on Tuesday.

The steamer Neff, of the Milwaukee-Michigan Transportation Co., which is the new co-operative line to northern Michigan, started on her first trip Tuesday night with a full cargo.

The Goodrich Transportation Co. has set the date for the first trip of the whaleback Christopher Columbus for June 27. The Columbus was thoroughly overhauled during the past few weeks at the company's plant in Manitowoc.

Crane Co., Chicago, manufacturers of valves, fittings, etc., has decided to erect this summer a modern fire-proof building exclusively for offices. It will be about 90 ft. x 100 ft., five stories and basement, and will be located in the vicinity of its large cast iron and malleable fitting and valve works, at Canal and 12th streets.

A joint circular by the Erie and Lehigh Valley railroads announces the appointment of T. T. Morford as general manager of the Union Steamboat Co. & Lehigh Valley Transportation Co., with headquarters in Buffalo. Mr. Morford will take charge of his dual position immediately, removing his family to Buffalo.

The West Division Steamship Co. has been incorporated at Milwaukee with a capital of \$225,000 by the widow and daughters of W. H. Wolf. The company will be represented by David Vance & Co. The steamers Wolf and Pabst and the schooner Armenia, comprising the fleet, will have their registry changed from Chicago, to take advantage of lower taxes in Wisconsin.

The fight is on with the members of the Seamen's Union who are cooks. The latter wish to form their own union but are told that they will not have the sympathy or support of the present union if they do. The American Federation will take the matter up and it is supposed that they will uphold the stand taken by the seamen. There is also a little feeling expressed about the difference in sailors' wages, the Milwaukee rate is \$2 per day and the Chicago \$1.75.

Great inconvenience and serious losses are being placed on the grain trade by the tie-up of lake boats on account of the embargo in St. Clair river and the marine engineers' strike. Several hundred thousand bushels of wheat are on the market, but no boats can be secured for it. Shippers were bidding 2½c. and would have gone to 2½c. if the advance would have secured the needed vessels. But neither the strike nor the ice blockade give promise of an early resumption of navigation.

President Graham, of the Graham & Morton line, announces that all talk of the company purchasing the burned steamer City of Louisville from the insurance companies for \$6,000, is untrue. He says that the companies still owe \$15,000 of the insurance, and that the Graham and Morton Co. has been holding the boat. Mr. Graham is also authority for the statement that the company has just sold the hull to H. W. Hart, of the Hart line, for \$11,325, to be rebuilt for that line at once.

The Navy Department has decided to send the naval craft Dorothea to the lakes. Her first service will be to take on board the Illinois naval militia for their practice cruise. The Dorothea is now at the Philadelphia navy yard, where batteries will be removed prior to making the long trip. This removal of the batteries is regarded as essential in order to keep the vessel from being a warship within the meaning of the treaty with Great Britain, under which neither nation is to maintain more than one armed vessel on the Great Lakes.

Thousands of people thronged the bridges and other points of vantage along the river on Wednesday to see the steamer Northwestern start on her first trip to Liverpool. The Northman will come here for her cargo Friday and will leave on Monday for Hamburg. While several vessels have come direct from Europe to this city, none have ever made a successful trip from this port across the Atlantic. At Buffalo a large quantity of wheat will be discharged, lightening the vessel to twelve feet to permit passage through the Welland canal and other canals and the shallows of the St. Lawrence river. At Montreal the Northwestern will load again with grain and proceed. The company owning the Northwestern is composed of Chicago men and contemplate putting several other steamers in service between here and Europe.

WEBSTER L. MANTLE, of Gladstone, Mich., has assigned one half of his patent on an improved compass card design to Frank A. Van Clave, of Escanaba, Mich.

DETROIT.

Special Correspondence to The Marine Record.

The wrecking tugs Favorite and Saginaw will likely be enrolled in the fleet of the Great Lakes Towing Co., as negotiations looking to that end have been entered into if not already completed.

The Seidler-Miner Electric Co., general electrical contractors, Jefferson avenue, have just issued a handsomely illustrated marine catalogue showing every thing required in the electrical line for ship's use.

Postmaster F. B. Dickerson has renewed the contract with Messrs. Ashley & Dustin to carry the U. S. mails between Detroit and Put-in-Bay. The service opens June 15 and ends October 15 under the contract.

It is not generally known that Mr. A. A. Schantz, of the D. & C. Line, is chairman of the Great Lakes and St. Lawrence River Rate Committee. On the other hand, it is well known that he is an A1 general passenger agent.

A. Jacobsen, of Hoboken, N. J., a well known marine artist on the coast, has just completed a handsome painting of the new Detroit and Buffalo boats as a sketch from which he is to complete a seven-foot painting of the same steamers for exhibition at the Pan-American Exposition.

Two steel steamers now building at the Bay City yards of the American Ship Building Co., will be launched before being fitted with boilers and engines. They will be towed to this port for their machinery. One will be ready for launching in about two weeks, and the other in about four.

Mr. Joseph Hayes, superintendent engineer for the fleet of the "grande syndicate," was here on Sunday, trying to ship some engineers, but he met with no better success in his efforts to get men to go to work than the Cleveland manager, Mr. Edwins Mills did. It is said that Mr. Mills offered all sorts of inducements weeks ago, but the Detroit engineers were firm enough to resist his overtures to the end.

James Davidson confirms the report that he is going to build a steel shipyard at Erie, Pa. He says the people there have offered him a free site, a liberal cash bonus and low taxes for ten years. The plant will include a drydock, foundry and machine and boiler shops, and will have room for building four or five of the largest boats at once. Capt. Davidson's yard and drydock at West Bay City will be continued for repair work to wooden vessels.

Capt. John Robertson, one of the oldest lake captains in service, died here on Wednesday from heart trouble, aged 73 years. He was born in Marine City and began sailing when fourteen years of age. He has been in command of the old steamers Pacific, Cleveland, Forester, Clifton, Forest Queen, Alpena, Milton D. Ward, Marine City, Riverside, Eber Ward. He also sailed the passenger steamers Darius Cole and Arundel and was part owner of the Unique.

The steel steamer Uranus was successfully launched from the Wyandotte yards of the Detroit Ship Building Co. on Saturday, but unfortunately in towing up to the Detroit yards for her machinery she was blown ashore through her tow line parting. Tugs were at once sent to float her and it is not thought that any damage will have been done to her hull as she fetched up in a mud bank, though she will be carefully surveyed in dry dock.

And now I learn from Toledo that a local harbor tug owner was last week fined \$500 for carrying a man not a member of the crew. The customs officials say that an owner can obtain a permit of the government to carry extra men by addressing the supervising inspector of steamboats for the district. A special inspector is stationed on the docks at Toledo whose business it is to watch the tugs and other vessels and report any violation of the rule regarding carrying people other than the crew.

The race between the side-wheelers City of Erie, of the Cleveland & Buffalo line, and the Tashmoo, of the White Star line, will take place on June 3, the course being from a stake boat off Cleveland to a stake boat off Buffalo, the boats to keep a ½ mile apart during the race. The owners of each boat have put up \$1,000, the stakes to go to a local charity of the port belonging to the winner. In case of unfavorable weather, the race will be postponed. The winner will be challenged by the Frank E. Kirby.

The Sarnia Bay Towing & Salvage Co. is the corporate name of a company which will seek for a charter enabling them to maintain a freight and passenger steamship service between Canadian and United States ports on the inland waters and carry on a towing and wrecking business. The applicants are Edmund Hall, lumberman; Wm. Howard Strong, merchant; Edmund Hall Chaney, of Detroit; Horace Morey, sawmill manager; David Mackenzie, solicitor; Fred-

erick Forsythe Pardee, solicitor; and David Milne, hardware merchant, of Sarnia. The intended amount of capital stock is \$15,000.

There are a few people in the world who may not even have heard of East Tawas, Mich. Just the same it is cutting its own little swath in the markets of the world, as for instance, The National Milling & Evaporating Co., East Tawas, has just received from Austin, Nichols & Co., of New York, a second order for dehydrated vegetables, which will go with the Baldwin north polar expedition. This order, in magnitude, does not compare with the orders which are sometimes received from the British government, which contracts in lots of 100,000 pounds or more; but the fact that the product of the condensery makes a start for the north pole is worthy of note.

Mr. Henry E. Barter, secretary-treasurer of International Longshoremen's Association, affiliated with the American Federation of Labor, is sending out circular letters this week to all locals advising them of the tenth annual convention to be held in Toledo July 10th. The association is at present officered as follows: Daniel J. Keefe, president, 411 Chamber of Commerce building, Chicago; M. W. Sullivan, first vice-president, Box 191, Painesville, O.; T. Herley, second vice president, 132 Jefferson street, Cleveland; J. F. Manning, third vice-president, Box 676, Washburn, Wis.; W. A. Lewis, fourth vice-president, Station A, Ashtabula, O.; G. Walker, fifth vice-president, Marinette, Wis.; H. F. Beach, sixth vice-president, Haynes street, Port Huron, Mich.; Paul Schubert, seventh vice-president, 503 N. Patterson Park avenue, Baltimore, Md.; Henry C. Barter, secretary-treasurer, 24 St. Aubin avenue, Detroit, Mich.

CLEVELAND.

Special Correspondence to The Marine Record.

John Stone has qualified as master of the schooner A. A. Turner.

It is understood that the railway companies will dredge away the bar formed at Ashtabula.

Capt. Wm. P. Benham has cleared at the Custom House, as master of the steamer City of Glasgow.

The Superior street viaduct is responsible for the loss of the steamer Desmond's foremast this week.

The photograph of Capt. Charles Gale, Sarnia, Ont., aged 85 years, is contained in the annual report of the Floating Bethel.

According to present intentions the C. & B. Line steamer City of Erie will open the season next Monday. The freight service on this line will be given every facility for rapid handling.

The action of the U. S. Steel Corporation broke the back of the M. E. B. A. strike. Individual owners would just as lief have seen the former conditions continued for another half month.

Capt. George Mallory will take charge of the steamer Victory, with Mr. Alonzo Arnold as chief engineer, both men are among the best employes in the firm of Messrs. Pickands, Mather & Co.

The engineers on the harbor tugs have gone back to work at last season's rate of pay. An increase of \$5 per month was asked, then lowered to \$2.50 with a final acceptance of their former pay.

A steam tonnage of 13,591 has been added to the Cleveland list this week. The G. A. Flogg and Randolph S. Warner, 4,062 tons, built at W. Superior, Mars, 3,748 tons, built at Wyandotte, and the Jupiter 3,719 tons, built at Lorain.

Capt. W. W. Smith has been appointed ship's-husband of the fleet owned by the United States Steel Corporation, Mr. Joseph F. Hayes, superintendent engineer; Francis B. Smith, assistant shore engineer, and Mr. C. G. Lampman shore steward.

The Knights of Labor fueled and loaded the "Soo" line steamer Minneapolis. Word has been sent to Gladstone by the officials of the Longshoremen's Union not to discharge her general cargo, pending further instructions, as there is a wage difference between the K. of L. scale and the I. L. A.

General Manager A. A. Parker, of the White Star Line, which operates the steamer Tashmoo, was in the city Wednesday and talked about his boat and the prospective race for the steam speed championship of the lakes with the steamer City of Erie, of the Cleveland & Buffalo Transit Co. He says he has decided to come over here and beat the City of Erie as he has done every other boat that he has come in contact with.

I know that the engineers' lists of appointments have been published, but I can start around next week and cap-

size a good many of the previous reports. The RECORD didn't find many Cleveland owners issuing their mandates in that direction, and to think that the president of the Lake Carriers' Association, now the lake manager of the U. S. Steel Corporation, was the first to head the list in telling who he was going to pay wages to, but he won't in every case.

President Uhler, of the Marine Engineers' Beneficial Association has left the lakes and gone to his home in Philadelphia, and it is stated that he will not return. This puts an end to all further conferences, therefore, between the union in its entirety and the vessel owners. Overtures are being made all round for the men to get back to their old boats, but they first want to make a lot of conditions about recognizing the union and an increase of wages up to \$150 per month in first-class boats, whereas they asked for \$140 a little while ago.

The Cleveland & Buffalo Transit Co. has issued its card announcing the opening of the season of navigation. W. F. Herman, the well known passenger agent for this line, has sent out some clever conceits, but this one is considered the best of them all. It represents a pretty girl stepping out of a traveling case. She is dressed in a modest gown of gray, and holds one of the steamers in her hand. The color scheme is especially fetching. It can be said though that nearly all of the passenger agents seem to train that way. They find no difficulty in trailing a train, whether it is a mechanical or material one. It's a virtuous failing they've got into.

Another meeting of the independent vessel owners of the chain of lakes was held on Wednesday in the offices of Captain James Corrigan. The plans for the season were talked over, and the committee, which was to have presented a complete plan for organization, asked for further time. The committee, also, which was to ascertain what rates might be made, made no definite report. The election of officers was held over, and the meeting then adjourned for one week. It is just possible that the organization will not be completed this season, as it was started too late to get all of the preliminary work done, however, a better understanding has been arrived at than ever before, and another season may see all arrangements completed.

In season or out of season, the energetic and irrepressible chaplain of the Floating Bethel is around alleviating. The Floating Bethel, by the way, is now built of bricks and mortar, "swallowed the anchor," as it were, and located ashore. It is doing just as much good, though, and no worthy case, or worthy or not sometimes, is ever slighted. The chaplain, Rev. J. D. Jones, is a power in his local surroundings, discreetly beneficent and with his one arm ever held out for or with the wherewith. The list of subscribers to the Floating Bethel and City Mission can shake hands with themselves in the knowledge that their pennies reach a long, long way under the judicious direction of Chaplain Jones, and the guidance of the officers of one of the best institutions in this port, or any other.

The ice jam is still firm in the St. Clair river and it is not likely that any volume of traffic will be recorded for April. Chartering has been done this week at 10 cents all round less than the combined vessel owners had placed their figures, or at 80, 70 and 60 cents respectively from Duluth, Marquette and Escanaba, while coal has been taken at 40 cents to Escanaba, Portage and the head of the lakes. The U. S. Steel Corporation forced the ore freight market chartering for a large block outside of their own carrying capacity, thus acting in a manner as brokers, for the surplus, of say two million tons. There is no hurry for ore as there is plenty on the docks and not a brisk demand. Last season about 300,000 tons had been brought down in April as against nothing this month.

THE Richelieu & Ontario Navigation Co. have just issued a wall-card which is worthy of admiration, both for its color and workmanship. It was designed by Mr. H. Foster Chaffee, Western Passenger Agent of the line. In the center are two lady tourists on the deck of a steamer, one standing and the other playing a guitar. Above is a scene of the Thousand Islands, over which flies the house flag of the R. & O. Line, with a coat of arms of Canada and the United States at either side. The bottom of the folder is devoted to a large picture of the steamer Toronto, while in the left-hand corner is the scene of one of the company's steamers running the rapids. The picture is finely lithographed by the Toronto Lithographing Company, and is worthy of the favorite Richelieu Line.

THE LAW OF MAGNETISM.

A SHORT AND CONCISE LESSON ON MAGNETISM AS IT AFFECTS THE MARINER'S COMPASS.

BY CLARENCE E. LONG, MILWAUKEE.

(Arranged for Masters and Pilots on the Great Lakes.)

CHAPTER III.

DIPPING NEEDLE.

A magnetic needle suspended at its center of gravity so as to move freely from the horizontal to the perpendicular.

MAGNETIC DIP OR INCLINATION AND EARTH'S LINE OF FORCE.

A property belonging to the magnetic needle, whereby one of the poles (ends) inclines toward the earth, while the other is repelled or elevated. Now, what is meant by the earth's line of force? It is the position which a freely suspended needle moving in a vertical plane, and undisturbed by iron, would take up if left entirely to itself. In the first place, it would point toward the magnetic pole; and in the second place, one end would incline downwards at an angle below the horizon corresponding to the "dip" at the place, the needle being horizontal at the magnetic equator and vertical at the magnetic poles. The line of force at any place is the line of dip at that place, and is the most favorable position in which a soft iron bar can be placed to receive induced magnetism from the earth. A soft iron bar placed lengthwise in the line of force or held horizontally in a north and south direction receives induced magnetism instantly, but parts with it quickly if it be held in an east and west direction at right angles to the magnetic meridian. Hard iron requires a longer time to receive magnetism by induction, and does not part with it so soon; it may even retain a part of its magnetism permanently.

EFFECT OF VERTICAL IRON.

In north magnetic latitude the upper end of vertical soft iron will attract the north pole of a magnetic needle held near it; on the other hand, in south magnetic latitude the upper end of vertical soft iron will attract the south pole of the needle, and repel the pole of the needle it has previously attracted. On the magnetic equator vertical soft iron has no effect because its position is at right angles to the line of force.

RED AND BLUE POLARITY.

There is some confusion in writers on the subject on this point. If the north pointing pole of the compass needle is attracted by magnetism residing in the north magnetic pole of the earth, the law of attraction (that unlike poles attract) shows us that these two poles are really magnetically of opposite kinds. If we call that north magnetism which is at the north pole of the earth, we must say that the north-seeking end of the compass needle contains south magnetism. And if we call that north magnetism which points to the north, then we must suppose the magnetic pole at the north pole of the earth to have south magnetism in it. This being the case, it is found convenient to distinguish them by color, calling the north-seeking end of the needle red or north polarity, and the North Magnetic Pole of the earth blue or south polarity. The South Magnetic Pole of the earth contains red or north polarity and the south end of the compass needle blue or south polarity.

At the north magnetic pole, the red or north end, and at the south magnetic pole, the blue or south end of a freely suspended needle points vertically downwards, or the dip is 90 degrees at both these places. This being true, the northern hemisphere, that is, north of the magnetic equator, is composed of blue polarity, or south magnetism; and the southern hemisphere south of the magnetic equator is composed of red polarity or north magnetism; and the earth's line of force varies between a true horizontal line and a true perpendicular line. Between the parallels of 40 degrees north and 50 degrees north latitude (the region of the Great Lakes) the dip, or earth's line of force, is between 73 degrees and 77 degrees, that is, the dipping needle dips that much from a horizontal line, and whatever this angle is, represents the earth's line of force.

For experimental purposes the two ends of a magnet are painted red and blue—red for north and blue for south; the red and blue colors meet at the center or equator of the magnet. As we have just seen, the earth's vertical force is greatest at the poles and nothing on the magnetic equator. Just the opposite effect takes place relative to the horizontal force of the earth, it being greatest near the magnetic equator and nothing at the magnetic poles. At the earth's magnetic poles all compass action ceases; since there a

freely suspended needle, pointing straight up and down, has no horizontal force to give it direction, hence the very apparent sluggishness of the compass in high latitudes, and its complete uselessness in the area of the magnetic poles, and were it not for the conical shape of the pivot and cap which compels the card of the mariner's compass to assume a horizontal position, it would tip over and jam against the glass cover as the magnetic poles were approached. For this reason, a liquid compass is of no use in high latitudes, and instead, a dry compass is employed, the dip being counteracted by attaching a weight on the south end of the compass card in north latitude and vice versa in south latitude. From what has already been said, one would imagine that at the magnetic equator would be found the strongest lines of horizontal or directive force; but most careful observations prove that such is not the case, in fact, that of the two they rather evince a preference to the geographical equator. This is another unknown law.

Remember that near the magnetic equator the compass will show the greatest number of vibrations in a given number of seconds. This is the manner in which magnetic force is measured. The farther you go north or south from the equator, the less number of vibrations will the compass needle show in the same length of time. The dipping needle shows the greatest number of vibrations at the magnetic poles and nothing at the equator. Whatever the process of magnetization may be, it produces two opposite and equal forces in the ends of the steel bar, from which it follows that there will be a neutral point about the center of the bar totally devoid of magnetism of any kind. It is well to know this; since, if it be compulsory to put a compass near vertical iron it may be possible to raise or lower it to the level of the neutral point, and so render the iron incapable of mischief, so long as the ship remains upright.

Note.—A great many marine men have an idea that because the compass needle points towards the north, that that end of the needle has more magnetism than the other end. This is absurd. There is an equal amount in each end and the south magnetic pole of the earth has as much influence in giving the compass needle its directive force as the north magnetic pole of the earth. The north magnetic pole contains blue polarity which attracts the north or red end of the compass needle, and the south magnetic pole containing red polarity, attracts the south or blue end of the compass needle.

THE DIFFERENCE BETWEEN HARD STEEL AND SOFT IRON.

The next most important point to be remembered is the difference between a magnet made of hard steel and one made of soft iron. That of hard steel will not reverse its poles, no matter at what part of the earth or in what position it may be held. Its magnetic character is absolutely permanent, and will so remain even though its red end be directed towards the south, and its blue end towards the north. Hard steel displays no particular haste to receive magnetism, but once acquired, it does not like to part with it. Not so, however, with soft iron, which possesses no independent magnetism of its own. In its case the magnetism is of a purely transient kind, ceasing with a removal of the producing cause, and being just as easily and quickly reproduced with reversed poles in the same bar.

The experiment may be easily tried with an ordinary kitchen poker and a boat's compass. But, first, it will be necessary to explain that a bar of soft iron, if held in the earth's line of force, will instantly become magnetic, though it may not have been so before.

The dip at Milwaukee is about 72 degrees. When, accordingly, the poker is held in this direction, it at once becomes magnetic by induction—its lower end, or point acquiring red magnetism in our hemisphere, and its upper end or handle, acquiring blue magnetism. This may readily be tested by placing the compass near it. If held a few inches from the lower or red end, the south point of the needle will be attracted by the poker, while, if held near the upper or blue end, the north point of the needle will be attracted. This invisible force, exerted by the poker, is termed "induced magnetism" or "magnetism of position," and only remains so as long as the poker is held in that particular manner. To destroy it, it is merely necessary to hold the poker in an east and west direction, or at right angles to the line of force, when it will no longer appreciably affect the compass.

This shows that soft iron has no fixed polarity, but that on the contrary, it retains magnetism only precariously, and easily loses it when mechanically disturbed. For example, percussion exercises a marked influence on both the induc-

ing and dispelling of this kind of magnetism. If, therefore, the poker be hit a few taps with a hammer whilst held in the line of force, its magnetic power will be intensified; and, again, when the position is altered so as to dissipate the force, it will be found that the tapping hastens that process also.

Let the poker be once more held in the line of force, but this time with the point up and handle down—it will again become magnetic; but the blue and red magnetism will be found to have changed ends. The red will have shifted its quarters to the handle, because it is now the lower end, and the blue to the point, because it is now the upper end. Just like water and oil behave in a bottle; the oil will unfailingly be found at the top, no matter which way the bottle may be held.

The facility with which soft iron acquires or parts with magnetism may be shown in another way. Take the kitchen poker, in imagination, to the north magnetic pole, and hold it vertically point down. The lower end, as before, will acquire red and the upper end blue magnetism. Holding it still in the same way, transport it to the magnetic equator; it will there be entirely free from magnetism of any description. Still holding it in the same manner, transfer it to the south magnetic pole, it will once more be magnetic, but the lower end will now have blue and the upper end, or handle, red magnetism. The rapidity of the change will correspond to the time occupied on the journey. As before stated, this will not happen with a magnet of hard steel, whose poles remain unchanged in character, no matter what way it is held, or in what hemisphere it may be placed. Keep this in mind, as it bears directly upon the behavior of the iron in a ship.

Thus, in north (magnetic) latitude the upper end of all vertical soft iron, such as funnels, masts, stanchions, davits, rudder, sternpost, etc., has blue magnetism and attracts the north end of the compass needle; while as the ship sails south such iron becomes gradually weaker in its effect, and on the magnetic equator, being then at right angles to the line of force, produces none whatever. On the other hand, in south (magnetic) latitude, the upper end of this same vertical iron acquires red magnetism, and repels the end of the needle it had previously attracted, doing so with continually augmented force as high latitudes are gained.

Further, be it remembered, that in any given latitude the magnetic intensity of a vertical bar of soft iron, such as the rudderpost, remains undiminished, no matter what may be the direction of the ship's head; but its disturbing effect on the compass depends upon its position relative to the needle, being greatest when at right angles to the direction of the needle's length, and ceasing when in a line with it. We have now done with vertical iron for the present.

(CONTINUED IN NEXT ISSUE.)

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Buffalo.....	1,345,000			13,000	131,000
" afloat.....	502,000				
Chicago.....	10,530,000	5,694,000	2,474,000	439,000	197,000
" afloat.....	1,225,000	2,405,000	672,000		
Detroit.....	269,000	415,000		23,000	14,000
Duluth.....	10,107,000	5,190,000	1,326,000	410,000	74,000
Fort William, Ont..	2,160,000				
Milwaukee.....	1,046,000	671,000	540,000	1,000	15,000
" afloat.....	75,000	331,000	472,000		72,000
Montreal.....	172,000	14,000	380,000	11,000	45,000
Port Arthur, Ont....	250,000				
Toledo.....	820,000	922,000	190,000		
Toronto.....	65,000		2,000		38,000
Grand Total.....	49,868,000	21,328,000	10,911,000	1,012,000	718,000
Corresponding Date, 1899.....	54,814,000	24,114,000	7,301,000	1,279,000	1,063,000
Increase.....					
Decrease.....	2,005,000	691,000	360,000	83,000	101,000

While the stock of grain at lake ports only is here given the total shows the figures for the entire country except the Pacific Slope.

THE Waterbury Rope Co., of New York, has departed from the usual custom in preparing its catalogue, and has presented much valuable information respecting the manufacture of manila rope and the cultivation and preparation of the material from which it is made. The subject is treated in a very entertaining manner. Wire rope is also described very fully, and important data is presented on the general subject of transmission of power by this means.

EXPOSITION ON A ROVING COMMISSION.

AN AROUND THE WORLD CHARTER—THE CHIEF STATISTICIAN ADVOCATES A FLOATING EXHIBIT OF WARES—A FLEET OF VESSELS TO GO SEEKING.

Mr. O. P. Austin, chief of the Bureau of Statistics, in the Geographic Magazine of recent date, has this to say in regard to his proposed method for the advancement of commerce:

"If a floating exposition were systematically organized, loading one vessel with exhibits of foodstuffs, another with textiles, another with agricultural implements and vehicles, another with manufactures of iron and steel, another with household requirements, and another with 'Yankee notions,' and sent from port to port and continent to continent, it should prove highly advantageous to our commercial relations with all of the countries visited."

The age of steel, St. Louis, Mo., has the following to say on the subject:

"From all standpoints, ethical or commercial, the modern exposition is not only a missionary of business but of morals. It has come to stay, and its itinerary is the world. The original idea is now supplemented by one equally as forceful, and it is no other but an exposition on the seas. It is proposed to fit out suitable vessels and charter the same to certain ports, where an exhibit of manufactured goods, and a prepared list of prices, and well selected advertising literature would develop trade. The idea is novel and not without its possible difficulties, but in these days of strenuous endeavor, and the stern necessity of utilizing every opportunity to promote business it is not unlikely that the idea may yet materialize into an actuality. The idea is certainly novel and it remains for time to determine its practical value. It is on the line of new efforts of which, perhaps, there will be no end, as trade conditions are always mutable and changing.

of the jib, which may be used for putting masts or smoke stacks into the ship. It is believed that this crane will prove to be a very useful tool for a shipbuilding plant.

The extraordinary success which this company has attained has compelled the building of a new plant. It has a very large amount of work on hand, the orders on its books to-day being more than fifty per cent. in excess of the entire business done by the company in 1900. Among other contracts booked recently is a large amount of work for Spain and also for England and Japan. The company has also just been awarded a contract by the Lackawanna Iron & Steel Co. for the entire ore unloading and handling outfit for its new works near Buffalo.

A WRECKER'S CLAIM.

Wrecking master Harrison W. Baker, of Detroit, is trying to find out where he will get his pay for salvaging the pig iron from the wreck of the schooner J. S. Richards, which was sunk opposite Walkerville last November. Baker claims that on orders from Capt. A. T. May and one Edgerton Parsons, who claimed to be representing the Atlantic Mutual Insurance Co., he removed 595 of the 600 tons of pig iron in the hull, and then moved the wreck out of the way of navigation. He filed a bill with the insurance company for the amount, and Jan. 5 last, having failed to receive satisfactory answer he filed a libel in the United States court. Since then the insurance company has answered with a statement that neither Capt. May nor Mr. Parsons had any authority to order the expenditure of any money for the company, in fact denying that either were in any way connected with the company.

The Superior Charcoal Iron Co. of Detroit owned the cargo of the Richards, and it when was released by the Canadians, took possession and sold it, receiving, it is alleged, \$15,000.

THE WORLD'S MERCANTILE TONNAGE.

The number and tonnage of vessels owned in each country as compiled for Lloyd's Register Book, London, is as follows:

FLAG.	STEAM VESSELS			SAILING VESSELS		TOTAL	
	No.	TONS		No.	TONS	No.	TONS
		Net	Gross				
British, { United Kingdom.....	7,020	7,072,401	11,513,759	1,894	1,727,687	8,914	13,241,446
Colonies.....	910	378,925	635,331	1,014	384,477	1,924	1,019,808
America, United States of.....	*690	594,237	878,564	*2,130	1,156,498	2,820	2,035,062
Austro-Hungarian.....	214	240,808	387,471	56	28,613	270	416,084
Danish.....	369	240,599	412,273	433	106,738	802	519,011
Dutch.....	289	307,574	467,209	117	63,068	406	530,277
French.....	662	542,305	1,052,193	552	298,369	1,214	1,350,562
German.....	1,209	1,344,605	2,159,919	501	490,114	1,710	2,650,033
Italian.....	312	343,020	540,349	864	443,306	1,176	983,655
Norwegian.....	806	467,123	764,683	1,574	876,129	2,380	1,640,812
Russian.....	496	292,277	469,496	750	251,405	1,246	720,901
Spanish.....	422	416,882	642,231	175	52,549	597	694,780
Swedish.....	678	260,023	418,550	755	218,722	1,433	637,272

Vessels under 100 tons are not included in these returns. * Excluding vessels trading on the Great Lakes.

WELLMAN-SEEVER CRANES FOR SHIPYARD USE

The Fore River Ship and Engine Co., of Quincy, Mass., which is building one of the largest shipyards in this country, and has lately taken contracts for two battleships for the U. S. Navy, has contracted with the Wellman-Seaver Engineering Co., of Cleveland, for a crane service over their shipbuilding berths. This construction will be of steel throughout, and will consist of a steel framework, which will carry two pairs of runways over each ship, on which will be operated small electric cranes of about 5 tons capacity, so that instead of one cantilever gantry serving two ships while under construction, as is the case in most shipyards, each berth will have two cranes for use during the whole time of the construction of the ship. These cranes will be designed for a very high speed, so that the work of putting the materials in place during the building of the ship can be performed with the greatest possible saving of time. The Wellman-Seaver Engineering Co. has also contracted with the above company for a fitting-out crane of an entirely novel design. This will be an electric traveling gantry wharf crane, with a folding jib, so that the crane can be moved to its place alongside of a ship, the jib lowered to its place, and the machinery or other material taken out of, or put into the ship, as may be desired. This crane has two trollers, one of 50 tons capacity and one of 25 tons. There is also a lifting tackle of 10 tons capacity attached to the end

Now Capt. Baker asks the court to order that money held intact until the responsibility for the wrecking operation and salvage work can be determined upon. Judge Swan has ordered the iron company to show cause why they should not turn the money over to the court, pending payment or settlement of the Baker bill.

WELDLESS CHAIN CABLE.

Large works, says London "Engineering," have recently been erected at Leamington-on-the-Tyne for rolling chain cables direct from the bar. The bars are heated in a furnace 70 feet long, and are drawn direct into the rolls. In the course of its passage a bar of this length, weighing nearly two tons, is rapidly converted into a red-hot $1\frac{3}{4}$ inch cable 90 feet long, link within link without weld, and with the stud already in its place in each link. The links are connected by webs and fins, which are afterwards removed cold by punching and special planing machines. It is claimed that a cable made in this manner from the usual ship quality of steel is 50 per cent stronger than the best welded iron cable of the same size, and that it is also very tough. The works have a frontage to the river of 3,000 feet and are equipped with powerful machinery. The rolling-mill engines have 48-inch cylinders and drive a mill weighing over 250 tons. There are punching machines for removing the fins from the links, and special planing machine for cutting the inner connections. The principal machines have been specially designed for this work and patented in many countries.

NOTES.

THE Boston & Lockport Block Co., Boston, Mass., and Lockport, N. Y., has just issued a pocket catalogue and price list of star brand blocks. Copies will be sent to all who are interested in this subject.

CLARENCE E. LONG, formerly of this port, but who has been conducting a nautical school at Milwaukee the past winter, is writing a series of articles for the MARINE RECORD on "The Laws of Magnetism," as applied to the compass needle.—The Advocate, Sturgeon Bay, Wis.

THE Secretary of the Navy received word on April 8 that the torpedo boat Perry, which is being completed by the Union Iron Works, San Francisco, had not come up to her required speed of 29 knots in a recent official trial. The best speed she could make was 28.2 knots an hour, but the Navy Department will accept the vessel at \$259,000, instead of \$282,000, the contract price.

MESSRS. COLE & KUHL, of Brooklyn, N. Y., have moved their machinery to their new place of business, corner Third avenue and Twenty-third street, which they have bought. Their business in the sale of their Elastic Seam Composition has increased to such an extent that they were forced to look for larger quarters so as to be able to fill the large orders which they are receiving.

"DOG-WATCHES AT SEA," is the title of an entertaining volume by Stanton H. King. The author is an old mariner, and this book is said to be an accurate account of life before the mast. Six years of the author's career was spent in the merchant marine, and his pen-pictures of this service are faithfully portrayed. There is a literary flavor about the book which adds to its charm. "Dog-Watches at Sea" will entertain any reader, whether a seafaring man or not. It is handsomely issued by Houghton, Mifflin & Co., New York and Boston, at \$1.50.

JENKINS BROS., 71 John St., New York, and Boston, Philadelphia, Chicago and London, have issued an attractive 1901 catalogue of their famous specialties which should be in the hands of all interested in valves, packing, etc. This concern makes the following offer: "If you will put a Jenkins Bros. valve on the worst place you can find, where you cannot keep other valves tight, and if it is not perfectly tight, or does not hold steam, oils, acids, water, or other fluids, longer than any other valve, you may return it, and your money will be refunded." This is an offer which is made by no other concern in the business. The Jenkins goods are reliable.

THE hulls of the Constitution and Independence, trial cup defenders for 1901, the former being built by the Herreshoff Manufacturing Co., Bristol, R. I., and the latter by George Lawley and Sons, South Boston, Mass., are both constructed of Tobin bronze plates. The ex-cup defenders, Vigilant, built in 1893, and the Columbia, built in 1899, were constructed of Tobin bronze, and acquitted themselves admirably in defence of the cup. The Army and Navy Journal in speaking of the Constitution says: "May she so conduct herself as to be known affectionately fifty years hence as Old Tobinbronzesides!" It is a cause for congratulation that a Navy officer, John A. Tobin, should be so prominently identified with vessels that are maintaining the yachting prestige of the United States.

THE Bullock Electric Manufacturing Co., of Cincinnati, and the Wagner Electric Manufacturing Co., of St. Louis, have effected a combination of their selling organizations. By thus combining forces in the field, they are mutually benefited, inasmuch as the products of the two companies are totally different, and where the product of one is used, the other is likely to be necessary. The product of Bullock Co. consists of a complete line of direct and alternating current machines, from a $\frac{1}{2}$ horse-power motor to 10,000 K. W. generator; controllers of various types and rotary transformers. The Bullock "Teaser" power system for driving large daily newspaper presses, has become world famous, and is to-day installed in the press rooms of the leading dailies in Europe and America. The product of the Wagner Electric Manufacturing Co. covers a full line of static transformers, of all types and of the largest sizes; ammeters, voltmeters, indicating wattmeters, switches, switchboards for all purposes and single-phase, self-starting alternating current motors. The entire absence of complicated starting mechanism especially adapts the Wagner single phase motor to pumping plants and machinery of like character. Thus it will be seen that the two lines are admirably adapted to be sold by one organization, which will be under the management of Mr. E. H. Abadie, formerly sales manager of the Wagner Co.



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CLEVELAND, O., APRIL 25, 1901.

WHAT has become of that Washington man's patent compass with which he was going to split degrees in steering a course, taking bearings, etc?

OF course cooks are seafaring or lakefaring men, and have been known as such from time immemorial, why then this furore in trying to divorce themselves from the Seamen's Union? Still, if cooks desire to have their own distinct organization it seems a wonder why they can't.

GLASGOW, without any natural advantages, has been made one of the best seaports in the world, by artificial means. The Canadians are now guessing whether 10,000 ton steamers will ever reach the natural formed harbor of Montreal. Lay out your channel or fairway and buoy it, then go to work and dredge! dredge! dredge!

OUR subscribers in practical lake service would do well to carefully peruse the series of articles on magnetism, as it affects the compass, now being published in the RECORD from the pen of Mr. Clarence E. Long, compass adjuster, Milwaukee, Wis. Mr. Long opened and was the principal of a very successful nautical school in Milwaukee last winter.

MR. O. P. AUSTIN, Chief of the Bureau of Statistics, Washington, D.C., recommends a floating sample case of American products to visit all countries. This idea is either centuries behind or ahead of the age, still, Austin might make a good swap in trading a white dog for a black monkey. Let's herald him as a double-distilled re-incarnation of the lately deceased Capt. Cook.

THE thanks of the RECORD are due to the Hydrographic Office, Washington, D. C., for copy of a supplement of sailing directions for Lake Superior and the St. Mary's river corrected to date. The pamphlet should be in the hands of all Lake Superior pilots as the continual additions and changes in aids to navigation each season must perforce be somewhat mystifying even to the regular trader.

IN the attempt to pick out a national port for the eastern borders of the Dominion of Canada, there is a great diversity of opinion, and of course interests. Montreal, Quebec and Halifax each have their supporters, but it appears to us that in this matter the Canadians only look to the development of their ocean commerce, and turn a deaf ear or are oblivious to the immense trans-continental traffic susceptible of being courted via the lakes and the St. Lawrence system of canals as well as the contemplated Georgian Bay—French River—Lake Nipissing route. In a word, viewed from a western standpoint Montreal should be the national port, from an eastern view, Quebec.

LAKE AND RIVER PILOTING.

And now comes along a commander in the U. S. Navy, temporarily in charge of a light-house district, to show, suggest or tell (not instruct, if you please) lake pilots how to get into St. Mary's river in a fog too dense to pick up the land. This professional expert at piloting and seamanship has discovered that after passing a streak of thick fog enveloping the entrance to the river, clear weather is frequently to be found past Detour; he therefore, accepts the suggestion of the light-keeper at that point to sound a special fog signal so as to convey the intelligence that if vessels keep underway, judging their position from the sound of the fog signal, they will reach a clear, he does not state, however, what would probably occur in the interval.

The light-keeper at Detour says that "vessels lay for hours in calm weather in a thick bank of fog when it can be seen from the station that the weather is perfectly clear up the river." So he will, under the endorsement of the inspector of his district, supplemented by orders from the Light-House Board, undertake to blow a certain signal for pilots to follow the sound and get into clear weather. Well! it is to be hoped that he will not be permitted to do anything of the kind, as it might be a temptation at some time for an unwary individual to proceed into danger.

Knowing, as he must, the apparent erratic action of sound, it is strange that the naval officer should have countenanced, much less entertained, the suggestion of the light-keeper so as to bring it before less experienced minds. The Light-House Department has done much towards making known the aberration of audibility of sound, not that it does not work in perfect natural harmony, but that the laws governing sound waves are not as yet fully determined under the multiplicity of conditions existing on a coast line. Nor would it be of much greater advantage to the careful pilot if more than one signal was sounded at the approach to a harbor, channel, or fairway, in fact, it might possibly tend to make confusion worse confounded, and, in this connection, the marine history of Halifax, N. S., detailing the attempts to enter that harbor in thick weather, proves the unreliability of human judgment relative to locating the position or source of sound, even if other proofs and experimental facts were wanting.

Piloting, even in moderately fair weather, is essentially an art, depending chiefly on the senses of sight, feeling and hearing combined with experience, and a first-class pilot must have all of his senses and wits sharpened and ready. The keen, observant and competent navigator will never neglect the ordinary precautions in use by seamen. So much, therefore, being granted, it seems like begging the question to offer or submit unqualified issues, such as experimental piloting in fog by the aid of a sound, which can never be located twice in the same direction, either as to distance or bearing.

THE ST. LAWRENCE ROUTE.

With the practical closing of the Erie canal, as its inadequate state for modern methods of transportation actually implies, attention is now being turned to the natural formed outlet from the lakes via the St. Lawrence system of river and canals.

The impression has prevailed to a great extent that the Dominion Government has not been doing all that its system of waterways virtually commanded over the 2,400 mile stretch between the mouth of the Gulf of St. Lawrence and the head of navigation on Lake Superior. True it is that the large sum of upwards of \$75,000,000 has been expended during the past 30 years, or since the confederation of the Provinces, and the bulk of this amount has gone into lake and St. Lawrence improvements, all of which are permanent, slightly works highly creditable to the Government, yet, as we have said, there is a direct sentiment entertained on this side of the border that Canada has not made most of her opportunities for enhancing the value and interests of inland waterborne traffic. This idea may have been engendered to some extent through the absence of tremendous private steals on large government contracts, such as we have had in the United States, which, if they are wrong from every possible standpoint may at least claim the distinction of widely advertising the tremendous sums, both Federal and State, appropriated for local improvements.

Be this as it may, Canada has kept pace with the modern march of advancement and from all present indications fully intends to keep in the van.

We have said that the idea prevailed at lake ports that Canada was not sufficiently interested in maritime progress,

etc.; Canadians themselves must also have been somewhat suspicious on these grounds, as we find a deputation of Montreal shipping interests presenting such views to the Dominion Government and chiefly relative to improved facilities to navigation on the St. Lawrence. It was represented that aids to navigation were sufficient to meet present requirements. While a few years ago the facilities were good, today, with increasing number and size of ships, they were inadequate. It is also claimed that the buoys and lights should be increased in number, and the latter be of greater strength. The ship channel, furthermore, should be deepened, broadened and straightened. In reply, the chief of the department sent the chief engineer of his department down the St. Lawrence with a party of shipowners, merchants, pilots and others to point out the improvements deemed to be necessary, and such as were stated on that occasion were conceded. As regarded the navigation between Quebec and the Straits of Belle Isle, the minister mentioned that on four successive occasions he had crossed the Atlantic and returned in the Dominion and Allen Line vessels, and he had made it a special point to inquire where the existing aids to navigation could be improved or where there was anything wanting that could be supplied. None of the four commanders could suggest anything. The Minister of Marine also touched upon the other points raised, and admitted the desirability of omitting no reasonable expenditure in order to put the navigation facilities on a thoroughly modern and satisfactory basis.

The foregoing seems to bear ample testimony in refutation of the belief that the Government was in any way inert in the matter, furthermore, arrangements have just been completed whereby signal stations will be maintained, also a government telegraph system, from Anticosti on up the north shore of the Gulf of St. Lawrence.

THE Western Assurance Co., Toronto, is by no means a weakling, from a business standpoint. The assured is safe in the hands of such an old established fire and marine insurance company. Since the organization of the Western Assurance \$27,000,000 has been paid in losses, and the annual income is advertised as being over \$2,920,000, but it is not stated how much over, nor what relation the profits on the marine policies bear to the fire business, although it is well known that the latter has not been a very lucrative line of late years. It is a pity though, that marine insurance via the Gulf of St. Lawrence, should be taxed about three times as much as the rate is, say, out of Baltimore, Md. Perhaps some of these immensely wealthy and influential Canadian insurance companies will see their way to shave rates a trifle now that American commerce is seeking that route.

WHILE it has been found hard enough work for the owners of small floating property to carry an annual balance on the right side of the ledger, a number of others, shamefully and ignorantly throw a vessel's earnings away—as witness the ice-bound fleet at the foot of Lake Huron for several days past. This experience is repeated season after season, and while sympathy is never extended for any loss incurred by wealthy and experienced shipowning firms, who may crave the distinction of being the first to open lake navigation, it is contemptuously ridiculous for whining owners of small fry to buck their tonnage against the powers of the "Ice King." It is time enough to start a boat when full, free and unimpeded navigation is officially announced, otherwise, she is better tied up to her dock. Some owners, though, like sailors, get hungry after the spring dollars.

THE Dominion Government has granted the Clergue syndicate power to operate ice-breaking and salvage and wrecking steamers, with all appliances, etc. Now comes along the Western Assurance Co. and British American Assurance Co., petitioning parliament for similar privileges. While Canada would do well to pass a general act empowering any firm to engage in such a business, the appeal of the old insurance companies to be permitted to equip boats for salvage purposes, etc., shows that Mr. Clergue has shaken them up a trifle, and that they are awakening to the fact that something more than raking in premiums is to be required to hold the St. Lawrence business in the future.

A LARGE, capable dry dock and attendant facilities is now one of the absolute requirements for the Georgian Bay locality. If there are no enterprising Canadians willing to invest—both talent and capital can doubtless be secured on this side of the border.

LAKE AND TRANS-ATLANTIC TRADE.

A marked departure in lake shipbuilding and commerce is to be chronicled this week in the clearance from Chicago of the first of a fleet of four new steel steamers built especially for the lake and trans-Atlantic trade.

The Northwestern Steamship Co., Chicago, Ill., intend to have a steamer at her loading berth to receive cargo for Liverpool or Hamburg throughout the summer months, and these steamers, built at the Chicago yards of the American Ship Building Co., seem well fitted, in so far as the structural ability, equipment and carrying capacity is concerned to carry out the adventure of their owners.

The construction of these new boats is of primal importance when considering a continuity of the traffic, thus, may we say, so auspiciously opened, especially so, as several futile, whimsical, incapable or abortive attempts to develop such a traffic has hitherto met with comparative failure. The general hull dimensions of these four sister ships are 256 feet in length over all, 42 feet beam and 26½ feet in depth. Engines of the triple expansion type having cylinders 20, 33 and 54 inches in diameter and 40 inch stroke, supplied by steam with two Scotch type boilers 12¼ feet in length by 11½ feet in diameter. These dimensions being limited to the size of the locks of the Welland canal, forming the artificial link between Lakes Erie and Ontario, after which is to be threaded the St. Lawrence river and system of canals prior to reaching the waters of the Gulf and thence to the Atlantic.

Relative to the commercial aspect of the adventure there seems to be no fair or valid reason why the line should not prove a financial success, though of course it is yet too early to make even a guess at the net earnings of the first season's work; however, adequate means have been furnished and now much will depend on the business acumen exercised on shore and a successful, practical handling when between ports by those entrusted with the care and safety of this valuable and well equipped little fleet of Western Ocean droguers. The steamer on the berth for Liverpool loading will no doubt also receive cargo direct for Manchester, and look to that port for a good share of her homeward cargo to Chicago, as well as on through bills of lading to points farther west, but as yet we have heard nothing regarding the Manchester end of the traffic, although the excellent firm appointed as the agents in Liverpool can well be depended on to find for each boat all that they go for from the other side.

While the best possible success is looked for, there is no good interest to be served in clouding the fact that the route is to a certain extent an experimental one, not so much from a commercial standpoint, for that we consider already assured, but the adaptation of steam tonnage for the combined lake, river, canal and ocean uses, presents the untried elements that will later come before our enterprising citizens, the builders, owners and practical handlers of this class of tonnage, as well as in the manipulation or management of this diversified sort of commerce and navigation, especially considering the consumption of time likely to be experienced over the route which they will traverse.

THE North Western S. S. Co. Chicago, start out to regulate their schedule of sailings as follows: The Northwestern leaves Chicago April 24, reaches Montreal May 2, the Atlantic seaboard May 7, Hamburg May 16; leaves Hamburg May 22, arrives Chicago June 13. Her sister ships will sail as follows: Northman, Chicago, April 25, reaches Liverpool May 15; North Eastern, leaves Chicago May 1 or 4 for London; Northtown, leaves Chicago May 15 for Hamburg. This is all very simple, methodical and railroad like, irrespective of wind and weather, counting even to the tides if you please. Well, the various trans-Atlantic steamships lines out of New York and the St. Lawrence, make fairly regular time with the mails, so why not the combined lake, river, canal and ocean bottoms? Time will tell.

In a somewhat remarkable finding, the State Board of Pilot Commissioners at San Francisco exonerated Capt. Jordan, pilot of the ill-fated steamer Rio Janeiro from all blame. We have known of a pilot being bundled over the side of a vessel bag and baggage for incompetency, also to be cozened and wheedled into keeping, or getting under way, in spite of his own better judgment, but for a pilot to suggest taking a vessel into port, thump and founder her and then to be exonerated of all blame, is rather more than we can take aboard. A pilot has always the right and the alternative of refusing to pilot under certain conditions, all members of a crew are under absolute sway and must "obey orders if they break owners."

THE St. Mary's river is policed of a well manned patrol boat, and we have seen trouble enough while she has been there, too. Now, the light keeper at Detour would like to take a hand, so as to pilot vessels in and out of the mouth of the river during calm, foggy weather by pounding certain fog signals. Calm, foggy weather is good, perhaps he would forego his piloting and repudiate the job if a strong breeze was blowing. A popular belief is that every man ought to be at his post, and the cook, to the fore sheet, also the chief clerk to the lamp trimmer, with his wick in hand.

O. P. AUSTIN, chief of the Government Bureau of Statistics, would establish floating expositions of American products, and send them to South America, Asia and Australia with a view to enlightening the benighted people of those countries as to the quality and quantity of American goods. We should recommend Mr. Austin to burn out the trunk of a California red wood tree and begin peddling and paddling around the South Sea Islands for a start. Our postulant is no more ridiculous than his, and the conclusion, but there.

It is quite within our province to state that the engineer may become the principal on shipboard. At this time he occasionally receives the highest wages and can as easily render a steamer as helpless as a first-class pilot. On general principles, though, we don't think that the innovation will be first put into regular practice on the lakes, but their organizations and their strenuous efforts to elevate their calling by an elaborate system of self improvement may bring the question around at no late date.

PERHAPS Mr. George B. Uhler, national president of the Marine Engineers' Benevolent Association will not talk so glibly of disrupting other associations in the future. He has signally failed in his last hurrah as a national officer. So attract or distract attention, a bold heroic effort should now be made in some other direction, say, call out the salt water engineers, donkeymen and deck winch drivers, that's diplomacy.

It is to be regretted that marine engineer Herlihy, late of the steamer Rio Janeiro, sunk near the Golden Gate, was so ill-advised as not to make his appeal for re-instatement to the proper authority. After the ruling of local inspectors the appeal is taken to the supervising inspector of the district, not to a circuit court. It goes without saying that Mr. Herlihy was in no way responsible for the loss of the vessel.

THERE is an old adage stating something about supply and demand. Wonder if the local inspectors of the U. S. Steamboat Inspection Service couldn't supply the demand for some lake engineers. They are the makers as well as breakers of licenses, and the sole doctors in the case, when, as they always are, totally uninfluenced.

THE engines of the recently launched White Star trans-Atlantic liner Celtic are of the Harland & Wolff's quadruple expansion "balanced" type, with cylinders of 33 in., 47½ in., 68½ in. and 98 in. diameter, stroke 63 in. Steam will be supplied at a pressure of 210 lbs. by eight double-ended boilers, each 15 ft. 9 in. by 19 ft. 6 in.

It is just as easy to confess no was at any other time that the lake engineers went about their strike wrong end to. A lot of ill feeling has been engendered, navigation has not been sensibly delayed as yet and the confidence of owners in the service loyalty of their engineers has been ruthlessly shattered.

It is indubitably settled that "Jones pays the freight" and the consumer the tariff taxes, but who pays the underwriters' losses on marine risks? They probably mint bullion behind their mahogany topped desks.

THE Montreal harbor commissioners will be guilty of every malfaisance in office contained in the calendar if facilities are not offered this season for the rapid transfer of lake borne traffic.

ONCE again we rise to inquire where are all these engineers so glibly appointed to lake vessels in cold type? 'Twas a pretty good way to ship them though, and it appears the only way.

It goes without saying, that in the best depth of water at lake ports is found the key to commercial progression.

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—MICHIGAN.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, D. C., April 23, 1901.

GRAY'S REEF LIGHT VESSEL.

Notice is hereby given that, on or about April 26, 1901, Light Vessel No. 57, off the easterly end of Gray's Reef, northerly end of Lake Michigan, will be moved about 3.150 feet (¾ mile) S. E. by E. from her present position and moored in about 24 feet of water.

The approximate geographical position of the vessel will be:

Latitude, North, 45° 49' (51'');
Longitude, West, 85° 10' (34').

Bearing and distance of Waughshance Light-House, as taken from Chart No. 1930 of the United States Hydrographic Office, will be: N. 84° E. (E. ½ N.), 4.1½ miles.

No change will be made in the vessel as to characteristics of lights, fog signal, or general appearance.

LAKE MICHIGAN.

Notice is hereby given that, on or about April 26, 1901, the following changes will be made in aids to navigation in Gray's Reef Passage, northeasterly end of Lake Michigan.

MALIETOA SHOAL GAS BUOY.

This red buoy, showing a fixed white light during periods of 10 seconds, separated by eclipses of 10 seconds' duration, stationed about 4.7½ miles W. ½ S. from Waughshance Light-House, will be permanently discontinued.

MIDDLE SHOAL GAS BUOY.

A red and black horizontally-striped buoy, showing a fixed white light during periods of 10 seconds separated by eclipses of 10 seconds' duration, will be established, in about 18 feet of water, approximately in the present position of the spar buoy of the same name and color, which will be discontinued on the same date, to mark the center of a small shoal with 17½ feet of water on it, and located about 3.7½ miles W. S. W. from Waughshance Light-House, and about 1½ miles S. E. by S. from the new position of Gray's Reef Light Vessel.

Bearings are true; miles are statute miles.

By order of the Light-House Board:

FRANCIS J. HIGGINSON,
Rear Admiral, U. S. Navy, Chairman.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT HOUSE INSPECTOR,
ELEVENTH DISTRICT, DETROIT, MICH., April 22d, 1901.

HAY LAKE, ST. MARY'S RIVER.—Notice is hereby given that the Lower Hay Lake Cut East Side Middle Light No. 12, St. Mary's River, Mich., will be discontinued and the fixed red lantern light formerly exhibited from this structure will be replaced as soon as practicable by a gas buoy painted red—fixed red light 10 seconds, eclipse 10 seconds.

Lower Hay Lake Spar Buoy No. 4, page 76, List of Beacons and Buoys, Northern Lakes and Rivers, 1901, marks the easterly edge of the channel at this point directly opposite the crib from which the Lower Hay Lake Cut East Side Middle Light No. 12 was formerly exhibited.

Notice is hereby given that Upper Buoy, Canadian Side, head of St. Mary's River, Mich., page 79, No. 104, in the List of Beacons and Buoys, Northern Lakes and Rivers, 1900, which marks the Canadian Side of the channel at this point, was omitted from the List of Beacons and Buoys, Northern Lakes and Rivers, 1901.

This buoy will be re-established at the opening of navigation on the following named bearings:

Lower Buoy (Canadian side), Red Spar No. 14, S. S. E. ½ E., ¾ of a mile.

Waiska Bay Point, S. ¾ W., 3 ¾ miles.

Point Iroquois Light House, W. by N., 3 ¾ miles.

This buoy will be a 25 ft. red spar in 19 feet of water and numbered 142.

This notice affects List of Beacons and Buoys, Northern Lakes and Rivers, 1901, page 81, between buoys Nos. 13 and 15.

By order of the Light-House Board:

J. C. WILSON, Commander, U. S. N.,
Inspector 11th District.

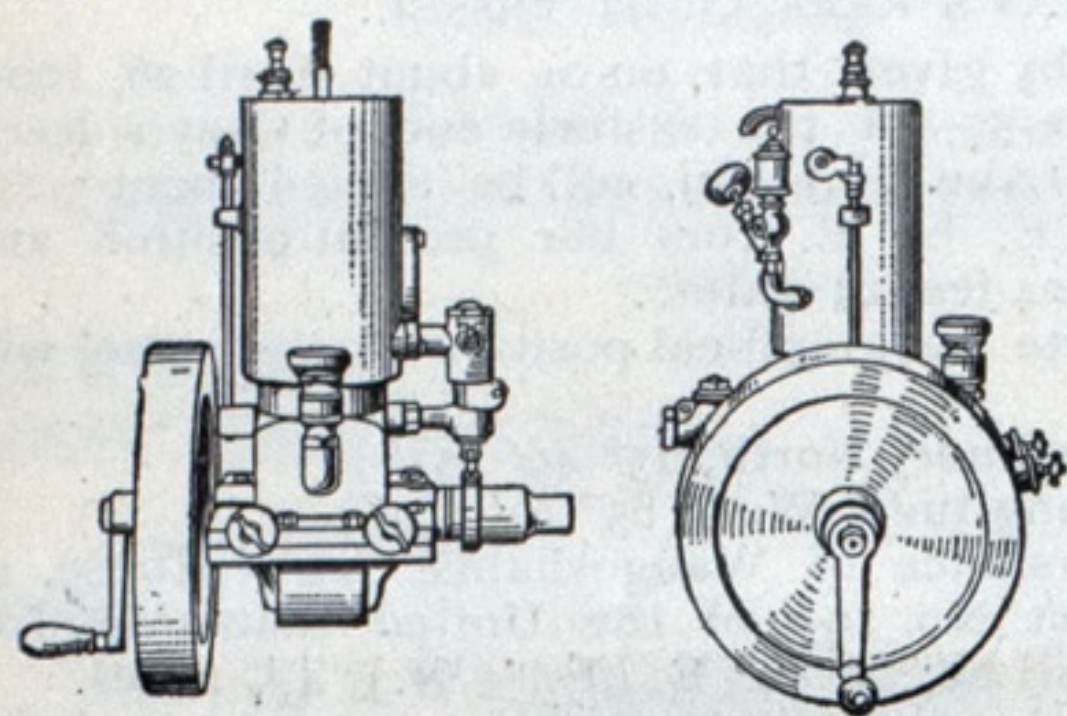
CONTRACT FOR NEW TONNAGE.

The Craig Ship Building Co., Toledo, has just closed a contract for constructing two sea going vessels for the United Fruit Co., of Boston, Mass., at a cost of \$400,000. They will have a speed of fourteen knots per hour. Each steamer will be 262 feet over all, with forty-foot beam and twenty-four feet depth of hold. They will carry passengers as well as cargo, having a capacity for 60 cabin and 100 steerage passengers.

The draft allowed boats in the Erie and Oswego canals is six feet, in the Champlain canal four feet six inches, and in the Black river canal three feet eight inches. The length of locks in the Erie and Champlain canals is ninety-six feet; breadth of beam allowed to pass through the lock, 17 feet; distance in the clear under bridges on the Erie and Oswego canals, twelve feet; on the Champlain canal, nine feet six inches.

Truscott

VAPOR MARINE MOTORS.
HIGH GRADE PLEASURE CRAFT.



TRUSCOTT BOAT MFG. CO.
ST. JOSEPH, MICH.

SEND 5 STAMPS FOR CATALOG.

Pintsch Gas Lighted Buoys.

Adopted by the English, German, French, Russian, Italian and United States Light-House Departments for channel and harbor lighting. Over 1,000 gas buoys and gas beacons in service.

Burn Continuously

from 80 to 365 days and nights
without attention, and can be seen
a distance of six miles.

Controlled by

THE SAFETY CAR HEATING AND LIGHTING CO.

160 Broadway, New York City.

BAINES BROS.
PROVISION MERCHANTS AND SHIPPERS OF
BEEF, MUTTON, PORK & POULTRY
LARD, SAUSAGE, ETC.
43, 44 & 45 ELK STREET MARKET
BUFFALO, N.Y.
VESSEL SUPPLIES A SPECIALTY
PHONE SENeca 346

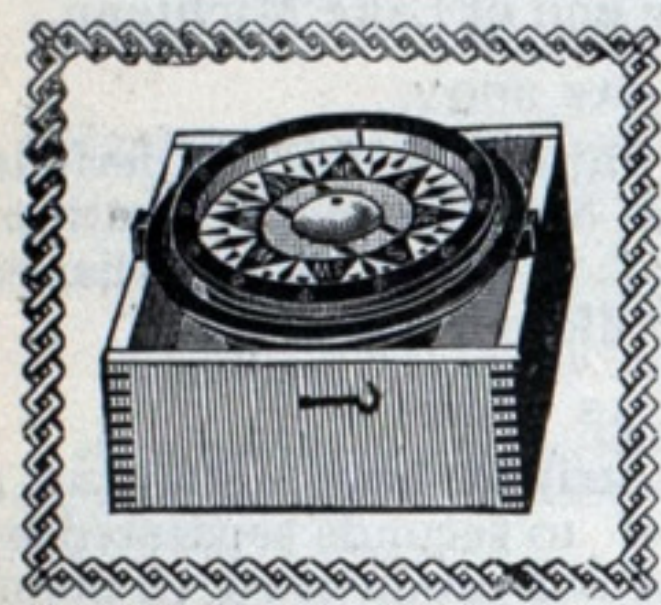
Cleveland Telephone.
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CHAS. R. DITTRICK,

SUBMARINE
DIVER

Day or Night Calls
Answered Promptly.

21 Everton Street,
GLENVILLE, O.



THE Bliss LIQUID (Spirit) COMPASS

Made in seven sizes by JOHN BLISS & CO., 128 Front Street, New York, is finely finished sensitive, accurate and durable. Moves quickly and is extremely steady. Is the best Liquid Compass ever made in this or any country. For sale by ship chandlers generally.

TREASURY DECISIONS.

ADMEASUREMENT OF VESSELS.

Breadths of steel steamships of deep-frame construction should be measured to the cargo battens, average thickness.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION, }
WASHINGTON D. C., April 5, 1901. }

SIR: This office is in receipt of the letter of the surveyor, dated the 20th ultimo, inclosing a sketch of the framing and battens of a steel steamship of deep-frame construction, now being built in your district. The battens are 10 inches apart and 2½ inches thick, the other parts of the framing being 12½ inches through. It has been the surveyor's practice to take the extreme at each point of division and then to make an allowance of .5 of a foot on each side for battens. The constructor of the vessel contends that in taking the breadths at each point of division there should be an allowance 1.25 feet on each side for framing and battens. The surveyor inquires, "which mode of admeasurement shall be followed?"

Article 77, Regulations of 1899, requires the measurement of the inside horizontal breadth at each point of division, the measurement to be extended to the average thickness of that part of the ceiling which is between the points of measurement. In cases like the present, the cargo battens may be considered as representing the ceiling, and the admeasurement be made to them. If extra heavy web frames have been inserted at intervals, as in vessels built according to the "bracket system," they should be disregarded in the admeasurement.

Please advise the surveyor of this decision.

E. T. CHAMBERLAIN, Commissioner,
Collector of Customs, Philadelphia, Pa.

THE STANDARD AUTOMATIC RELEASING HOOK.

One of the best appliances ever invented for marine purposes is the now well known Standard Automatic Releasing Hook used on the lower block of boats' davit tackle falls. The manner of reeving the tackles is also somewhat unique, and this feature, coupled with the automatic detachable hooks, permits of a boat releasing herself from the davit tackles by simply letting go one of the falls, but in ordinary cases both falls are used for lowering away as well as hoisting.

Mr. Raymond, manager of the Standard Automatic Releasing Hook Co., has just received the following excellent endorsement of their manufacture:

OFFICE OF QUARTERMASTER, U. S. TRANSPORT BURNSIDE, }
CEBU, P. I., March 14, 1901. }

Capt. James R. Raymond, 17 State St., New York.

We have laid nearly all the cable with the exception of a few miles, and that will be placed within a few days to connect the Island of Cebu with Negros. Laying this cable is hard, dirty work, sometimes we have all the boats and two

steam launches in the water twice in four hours. We have lowered the boats in heavy seas and I can't speak too highly of the magnificent way your releasing hooks work, I don't know at times what we would have done without them. It is the simplest, best and most reliable apparatus I have ever been shipmates with and I can't speak too highly in their praise. * * *

(Signed) LOREN C. CADDELL,
1st Officer, U. S. A. T. Burnside, Manila, P. I.

Mr. Raymond is of course much pleased at receiving such an excellent endorsement from a U. S. transport where the hooks are in almost hourly use in all kinds of weather. The merit of the hooks, however, is well established as they are in use in the several departments of the government, also in some of the most prominent lake lines of passenger steamers, notably, the Goodrich and the D. & C. Lines.

STRAITS OF MACKINAC OPENING DATES.

Following are the dates of the opening of the Straits of Mackinac since 1858:

1901.....	April 14	1879.....	April 22
1900.....	April 18	1878.....	March 15
1899.....	April 26	1877.....	April 18
1898.....	March 28	1876.....	April 28
1897.....	April 7	1875.....	April 28
1896.....	April 16	1874.....	April 29
1895.....	April 1	1873.....	May 1
1894.....	March 29	1872.....	April 28
1893.....	April 17	1871.....	April 2
1892.....	April 9	1870.....	April 18
1891.....	April 17	1869.....	April 28
1890.....	April 8	1868.....	April 19
1889.....	April 6	1867.....	April 23
1888.....	May 4	1866.....	April 28
1887.....	April 24	1865.....	April 21
1886.....	April 21	1864.....	April 28
1885.....	May 5	1863.....	April 17
1884.....	April 25	1862.....	April 18
1883.....	April 28	1861.....	April 25
1882.....	April 3	1860.....	April 13
1881.....	May 3	1859.....	April 3
1880.....	April 4	1858.....	April 5

The wooden steamer Pentland had the distinction of first passing through the north channel at the Straits this year on the date specified, but she sought shelter for a week later in Harbor Beach (Sand Beach), owing to an ice jam in St. Clair river.

PILOT EXONERATED.

Capt. F. W. Jordan, who was on the City of Rio de Janeiro as pilot, when that vessel was lost, off the entrance to San Francisco Bay, has been exonerated by the pilot commissioners and a new license granted him. The decision was reached after a number of protracted meetings and was not unanimous, Commissioners Leale and Alexander voting in favor of his reinstatement, and Commissioner Pratt voting against it.

UNIONIZING LABOR.

At a meeting held in Detroit last week, all submarine workers on Detroit and St. Clair rivers, as well as Toledo, O., organized a divers' union.

The association fixed the rate for work on the lakes as follows: Divers, \$10 per day; tenders, \$3; steam pump engineers, \$7.50; helpers, \$4.50; steam pumpers, \$5; helpers, \$3.

The officers elected were: Capt. John S. Quinn, president; Thomas O'Grady, vice-president; James Quinn, recording and financial secretary; Capt. H. W. Baker, treasurer; John Woods, marshal.

Local unions, it is said, will be organized at every large port on the lakes, and then the movement will be taken to the coasts. The Longshoremen's Association, of which the divers will be a branch, will protect the interests of the union. When the association is completed, the international body will control practically everything in the way of labor on the lakes, including the loading and unloading of lumber, the shoveling, trimming, loading and unloading of coal and ore, freight handling, both package and bulk, in and out of the warehouses, loading and unloading of salt, grain trimming and scooping, hoisters and engineers on docks, mill and lumber yard men on the lakes and coasts, dock and lake firemen, and, last of all, the submarine divers.

A MINIATURE LOCOMOTIVE.

Theodore F. Zealand, a senior student in mechanical engineering in the University of Michigan, has completed a working model of an eight-wheel passenger locomotive. The length of the engine and tender is 3 feet 7 inches. It is 12 inches high above the track, which is of 4½ inches gauge. The boiler, 18 inches long and 4 inches in diameter, will carry a steam pressure of 80 pounds to the square inch. The grate surface is 18 square inches. Either coal or charcoal may be used as fuel.

The cylinders have a diameter of 1 inch and the piston a stroke of 1½ inches. The valves are operated by Stevenson's link reversing motion. The drive wheels are five inches in diameter. There is a safety valve, a bell and a sand box. The engine is fitted with automatic couplers. When supplied with coal and water the weight of the engine and tender is 60 pounds. Under a full head of steam it develops a speed of from 10 to 12 miles an hour. On the sides of the cab is the lettering "U. of M. Eng. Dept.," and on the sides of the tender "1901."

LARGEST TOW BOAT EVER BUILT.

It is announced that the Monongahela Coal Co., Pittsburg, Pa., has placed an order with the Dubuque Iron Works, Dubuque, Ia., for the largest tow boat ever built. She is to be given power and equipment to handle a tow of fifty steel barges and her estimated cost is figured at \$250,000. The contract is said to have been signed on Saturday last.

SQUARE RIGGED VERSUS FORE AND AFT.

We learn from one of our eastern exchanges that the four-masted fore-and-aft schooner William B. Palmer, won the race from Philadelphia to Cape Town from the British bark Wildwood. Both vessels left Philadelphia with cargoes of coal. The Wildwood left on Jan. 9 and the Palmer three days later. Both craft arrived on March 29. Our contemporary says that: "The quick run shows that the coaster can hold her own in deep water as well as when near the land. The Palmer carried the larger cargo."

Now, so much for this special passage, but only those on board of the schooner can tell of the fun they had, "running their easting down." The schooner doubtless had the advantage in the trade winds, especially over the belt of the South East Trades, but the Lord pity a fore and after and those aboard of her when crossing the South Atlantic, or from the time she heads East until she hauls up for the Cape of Good Hope, and to work the Agulhas current she don't want to haul up too early either. A few cloths of square canvas is a great comfort when running before a strong breeze in a heavy sea, such as characterizes high latitudes in the South Atlantic.

COUNTERSINK HEADED RIVETS.

At a special meeting of the Classification and Surveyors' Committee of the British Corporation, held at their offices, Glasgow, on Thursday, the 7th inst., the chief surveyor submitted the replies to his circular letter on this subject, which had been received from shipbuilders throughout the country, and after a careful consideration of the question the committee decided to recommend to the general committee to amend paragraph 9 of section 2 of the rules, so as to permit of the use of countersink headed rivets without specially countersinking the holes for the reception of the heads. The general committee at their meeting on the 20th inst. accepted this recommendation. The paragraph in question will therefore now read as follows:

"Countersink headed rivets may be used for watertight work. A detailed specification of the parts in which it is intended to use such rivets should be submitted for approval along with a pattern."

EASTERN FREIGHT REPORT.

Messrs. Funch, Edye & Co. New York, report the condition of the eastern freight market as follows:

A more active business has been done in grain chartering during the present week, although the rates secured do not show any advance. There is, however, more enquiry for grain tonnage and as the majority of the prompt steamers pressing on this market have been provided for, we anticipate some little improvement in freights shortly for this description of cargo. From the British Provinces there has also been a fair amount of business transacted for deals to U. K. ports and further charters could be effected at current figures. General cargo business from the Gulf shows no material change and charterers are indifferent about taking up tonnage for the summer months. Cotton charterers from the Atlantic ports have made one or two fixtures on the basis

of 28s. to 30s. according to capacity of steamer, to Liverpool or Continent and seem inclined to do further business on a similar basis. Further fixtures have also been effected for coal from this coast to the Mediterranean, but these have undoubtedly been taken to fulfill old contracts.

We have nothing of particular interest to state as far as sail tonnage is concerned, as business remains low and rates unchanged.

DIMENSIONS OF THE LARGEST STEAMERS.*

VESSEL	Length	Bre'dth	Depth	TONS
Great Eastern.....	691' 0"	82' 8"	48' 2"	18,915
Britannic.....	468 0	45 2	33 7	5,004
City of Rome.....	600 0	52 3	37 0	8,144
Alaska.....	520 0	50 0	38 0	6,400
Etruria.....	520 0	57 3	38 2	7,718
Paris.....	560 0	63 2	39 2	10,500
Teutonic.....	582 0	57 8	39 2	9,984
First Bismarck.....	520 0	57 6	38 0	8,874
La Touraine.....	540 0	56 0	34 6	9,209
Campania.....	620 0	65 0	43 0	12,950
Kaiser Wilhelm der Grosse..	648 0	66 0	43 0	14,349
Deutschland.....	686 0	67 0	40 4	15,500
Oceanic.....	705 6	68 0	49 0	17,274
Celtic.....	700 0	75 0	49 0	20,880

*Gross tonnage and over-all dimensions are given.

SUIT DENIED.

Judge Morrow, of the United States Circuit Court at San Francisco, on the 15th, decided against Chief-Engineer Herlihy, late of the wrecked steamer City of Rio de Janeiro, in his suit for an injunction restraining the local steamboat inspectors from refusing to renew his license, which has been revoked for negligence. Herlihy claimed that he had not been tried according to law, but had been sentenced from the witness stand. The United States District Attorney entered a demurrer claiming that the court had no jurisdiction as Herlihy had not exhausted his remedy of appeal to the Supervising Inspector. The demurrer was sustained.

THE Edward Hines Lumber Co., Chicago, Ill., are sending out, with their compliments, a pocket atlas of the world, containing over eighty-three pages full of practical information on subjects of daily interest. The book contains good small maps of the Western Islands, Hawaii, New Zealand, Oceania, Africa, Philippine Islands, Japan, India and Siam and other foreign countries. Valuable statistical information is given on the population of the different states, cities and towns based on the 1900 census. In fact, this atlas will be found a ready reference. Some interesting information is given on the outside back cover regarding the Edward Hines Lumber Co. In their first year, 1892, they shipped 89,422,137 feet of lumber; in their fifth year, 1896, they shipped 150,193,370 feet, and in their eighth year, 1899, they shipped 263,785,267 feet. This would indicate that this firm have succeeded in pleasing their customers. They have their own pine lands, mills and vessels to take the stock direct from the stump. They manufacture it themselves, transport it in their own vessels, and are admirably prepared to fill orders of any kind promptly and cheaply.

NOTICE TO MARINERS.

DOMINION OF CANADA—ONTARIO.

IMPROVEMENT IN RANGE LIGHTS AT SOUTHAMPTON.—The back lighthouse of the range leading into Southampton harbor, east shore of Lake Huron, Ontario, has been moved 1,800 feet S. W. (S. 38° W. true) from its old position, and now stands on a low gravel ridge on the east or main shore of the harbor.

The range lights in line, bearing S. 4° 30' W. (S. 1° 30' E. true) now lead to the opening into the breakwater with nowhere less than 16 feet on the alignment.

J. GOURDEAU,

Deputy Minister of Marine and Fisheries,
Department of Marine and Fisheries,
Ottawa, Canada, 9th April, 1901.

All bearings, unless otherwise noted, are magnetic and are given from seaward, miles are nautical miles, heights are above high water, and all depths are at mean low water.

Pilots, masters or others interested are earnestly requested to send information of dangers, changes in aids to navigation, notices of new shoals or channels, errors in publications, or any other facts affecting the navigation of Canadian waters to the Chief Engineer, Department of Marine and Fisheries, Ottawa, Canada.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Division of Damages.—The rule in admiralty does not admit of the apportionment of damages for collision to correspond with the respective degrees of negligence of the two vessels, but, if divided, it must be equally, and, where the fault rests chiefly with the vessel of libellant, he will not be entitled to recover because there may have been slight negligence on the part of the other vessels. Jacobsen et al. vs. Dales, P. & A. Vav. Co., 106 Fed. Rep. (U. S.) 428.

Salvage—Rescue of Grounded Schooner—Amount of Award.—A schooner worth, with her cargo \$8,000, grounded on the shoals inside the mouth of Cape Fear river. She was in imminent danger of being lost, with her cargo, by the action of the wind and breakers. She had hoisted a distress signal, and was about to be abandoned by her crew, when she was rescued, and towed safely into port, by libellant's passenger steamer, which was worth about \$16,000, and manned by a crew of seven, and which left her wharf, and went to the assistance of the schooner, there being no other vessel near enough to give assistance. The salvage service occupied an hour, and was promptly and efficiently rendered. The steamer passed through the breakers, but was at no time in great peril, nor were the lives of those on board either vessel in great danger. Held, that an award of \$2,000 was excessive, and should be reduced to \$1,000. The Penobscott, 106 Fed. Rep. (U. S.) 418.



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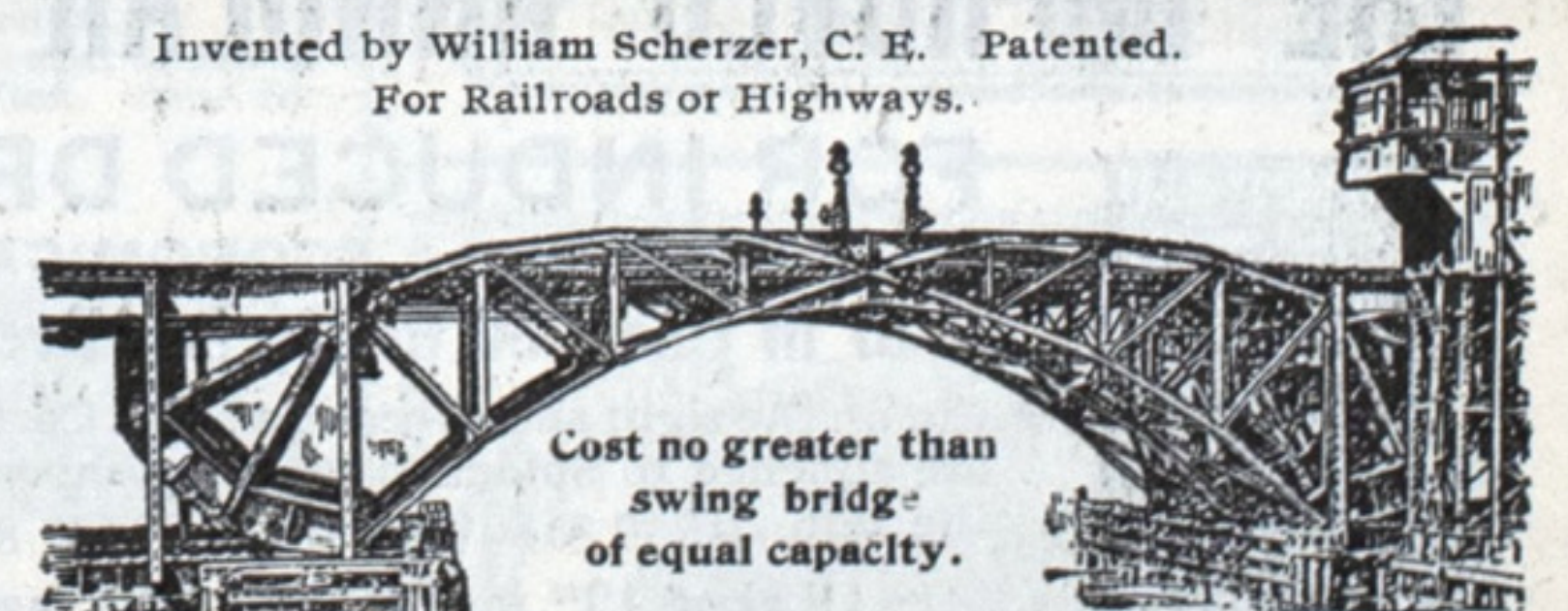
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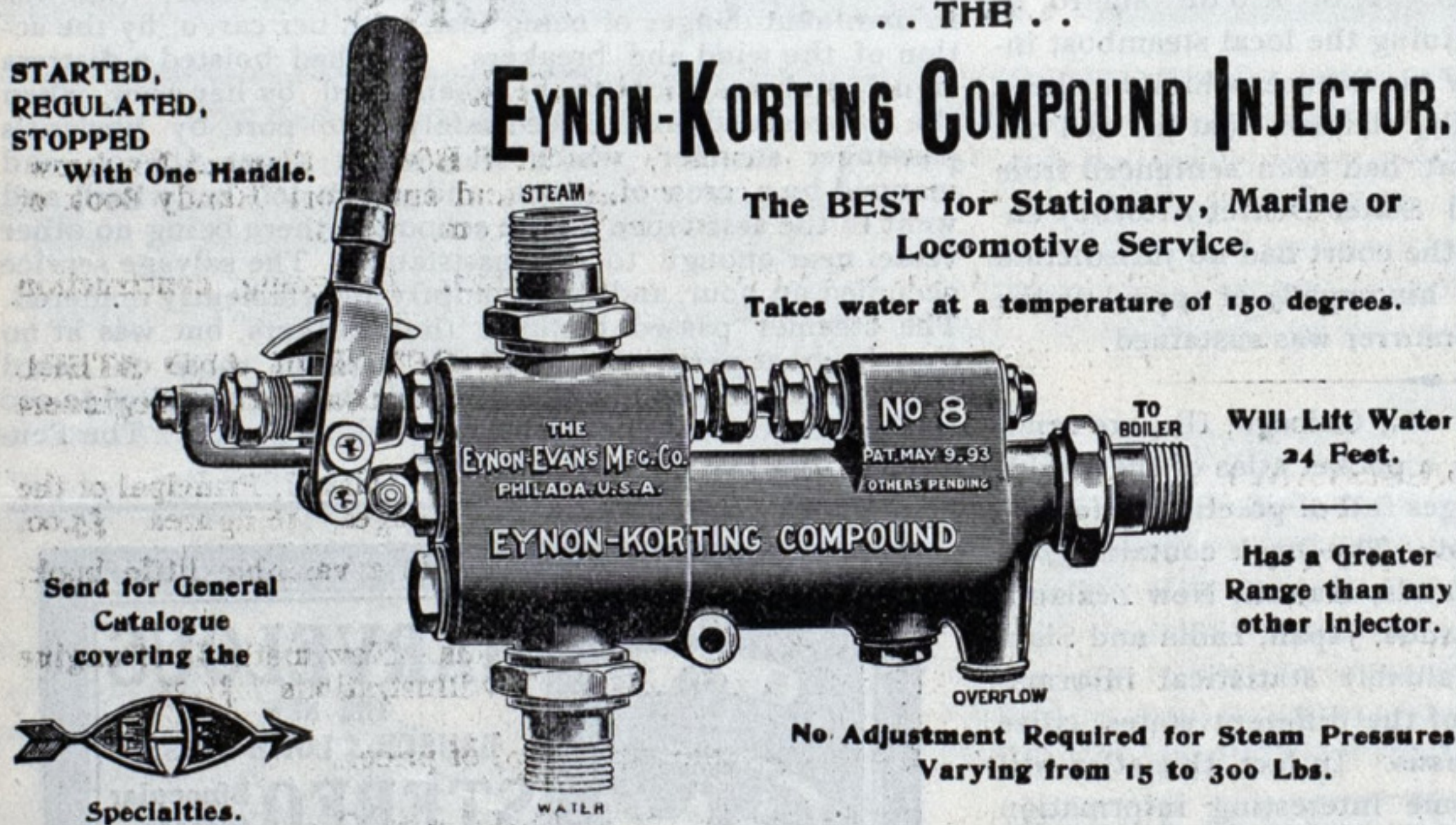
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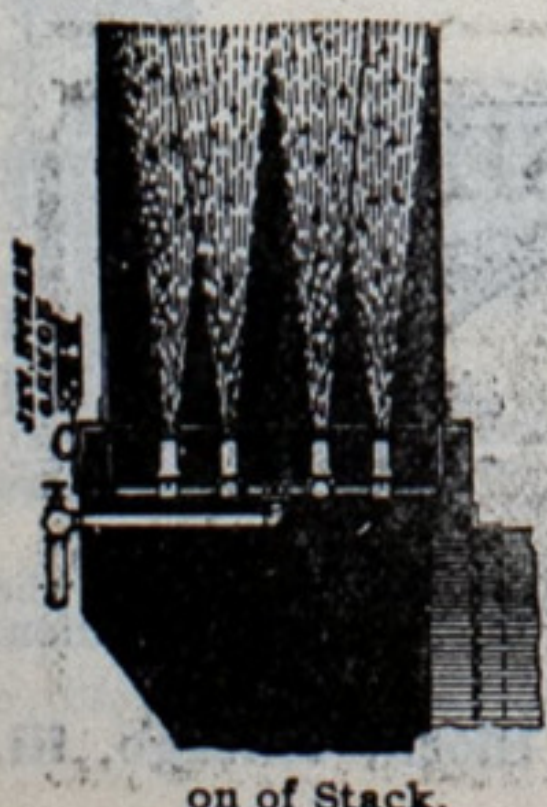
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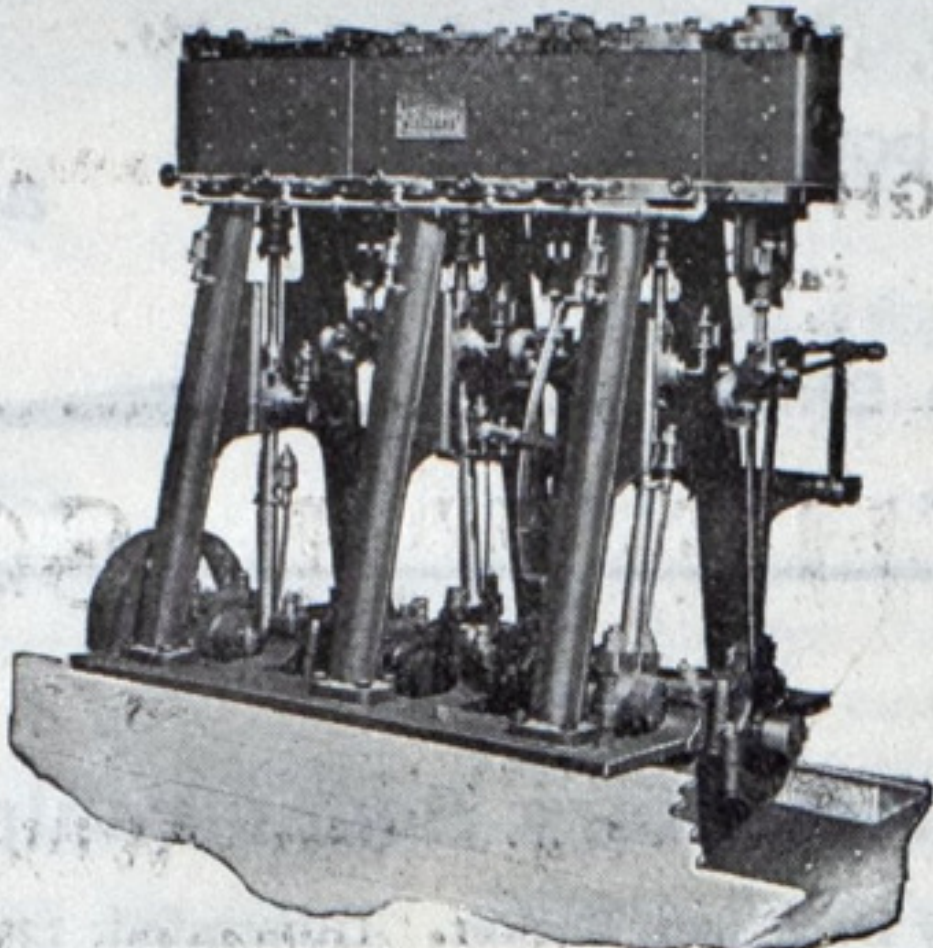
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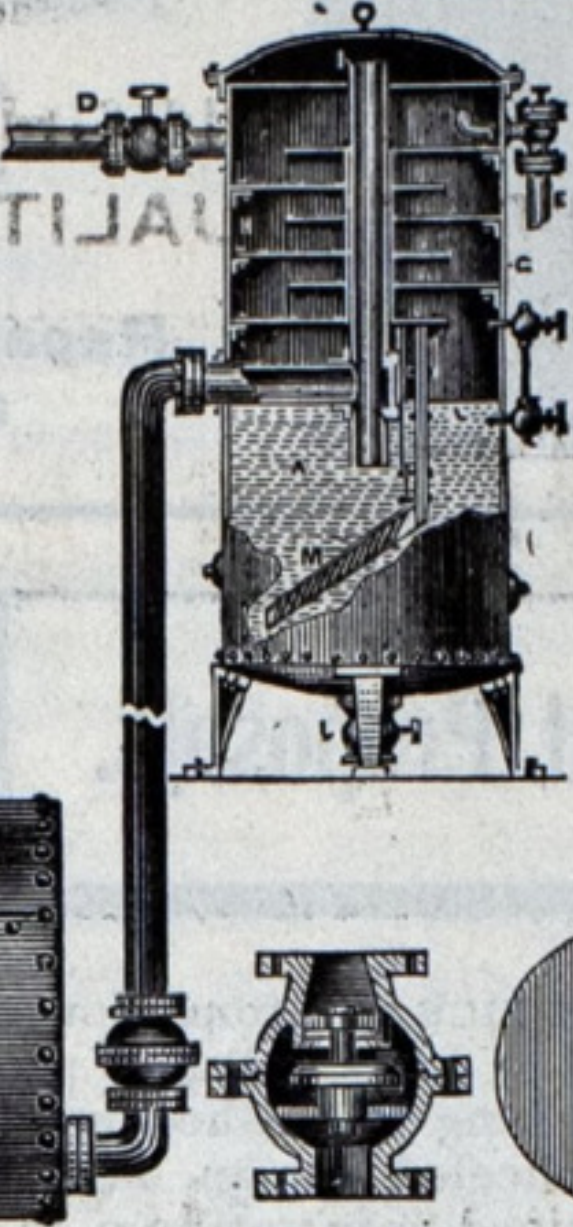
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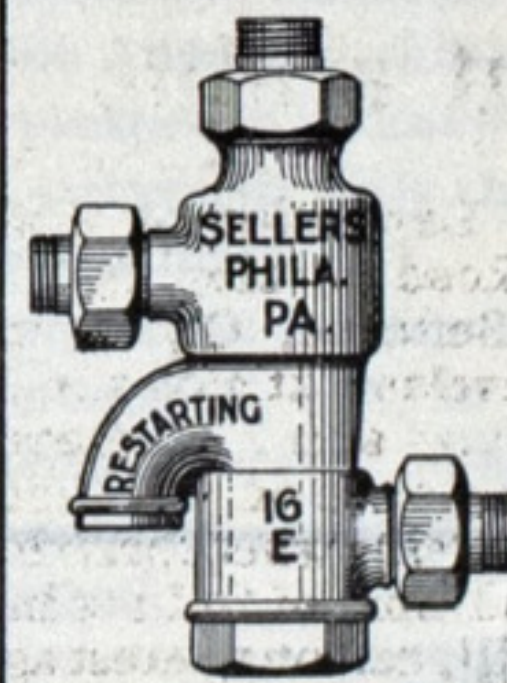


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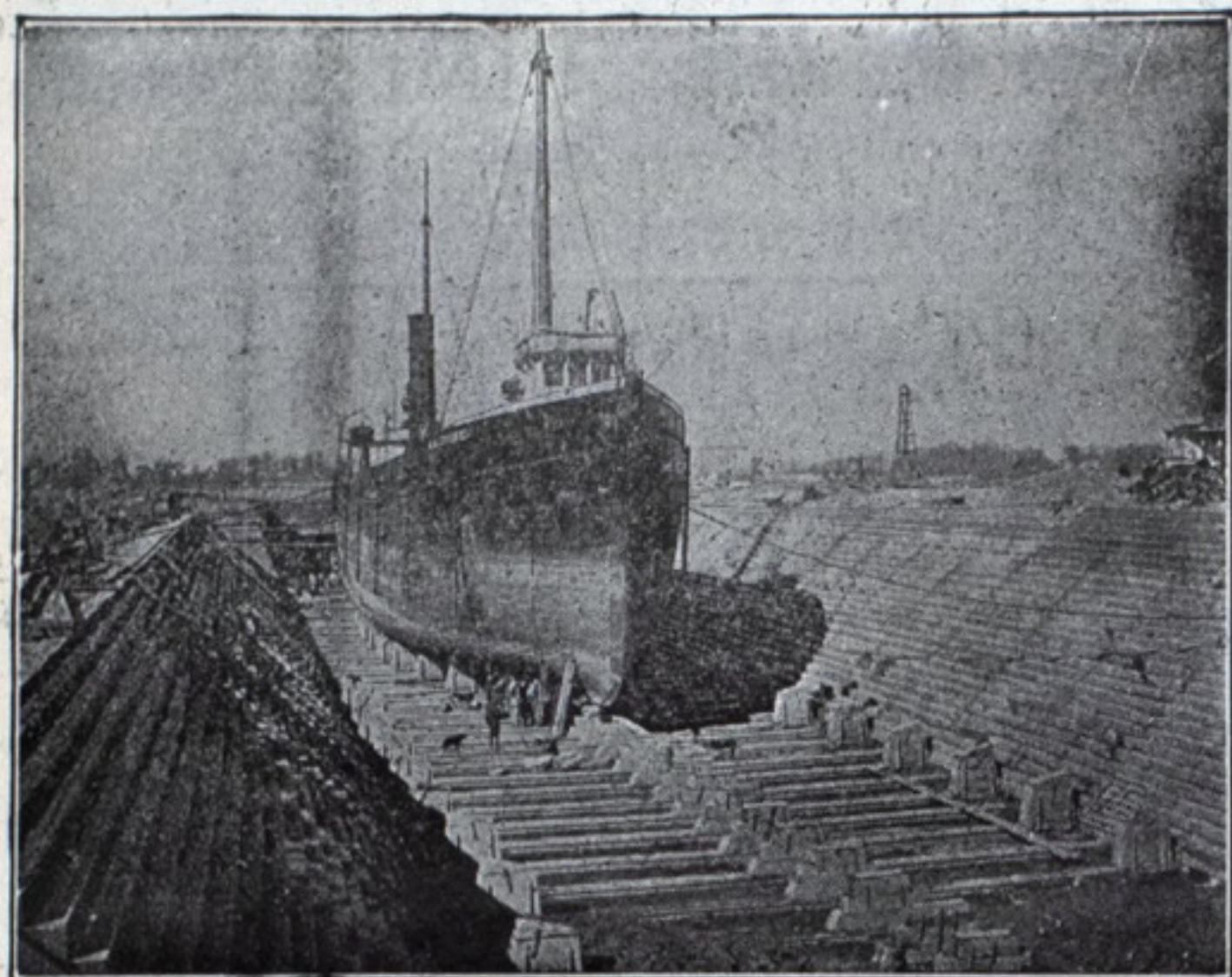
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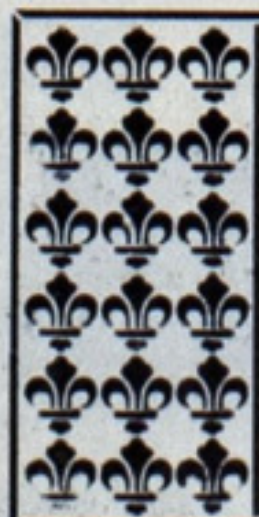
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